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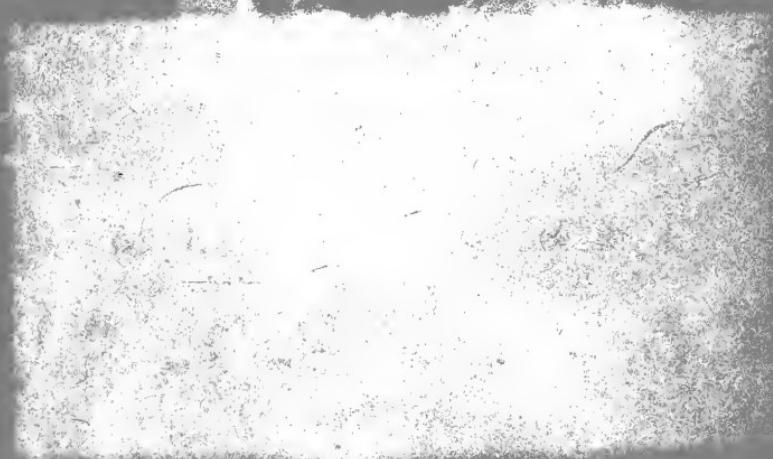
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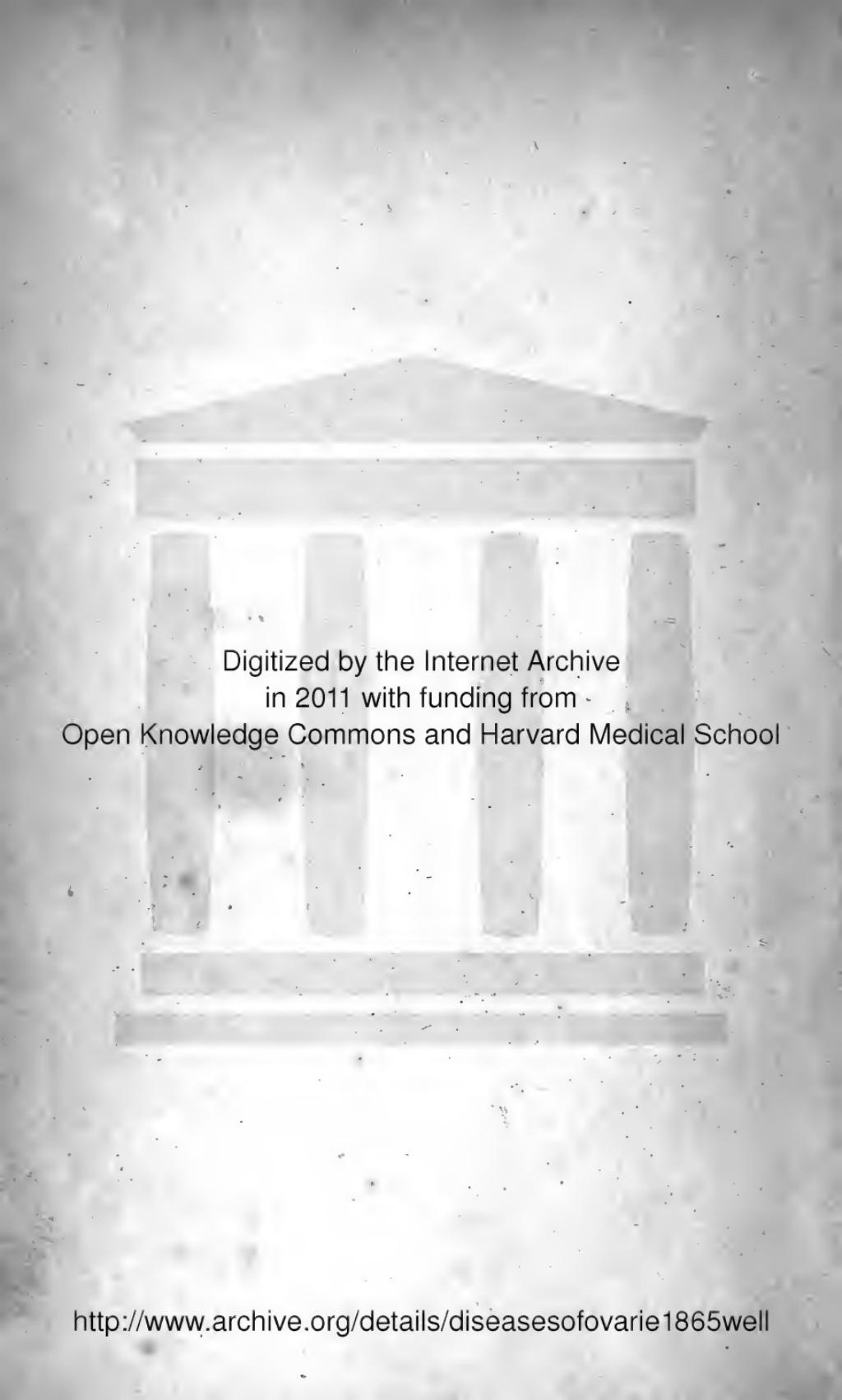
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DISEASES
OF
THE OVARIES

VOL. I.

LONDON
PRINTED BY SPOTTISWOODE AND CO.
NEW-STREET SQUARE

K DISEASES OF THE OVARIES

THEIR DIAGNOSIS AND TREATMENT

BY

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SURGEON IN ORDINARY TO HER MAJESTY'S HOUSEHOLD;
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ETC. ETC.

IN TWO VOLUMES

VOL. I.



LONDON

JOHN CHURCHILL & SONS, NEW BURLINGTON STREET

MDCCLXV.

1811

30.7³³

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OF

THE FIRST VOLUME.



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INTRODUCTION.

As the year 1864 closes upon us, and we receive from Australia and Ceylon reports of the first successful cases of ovariotomy in our colonies ; when we hear of a case in Russia, another in Switzerland, a third in Bavaria ; when Nélaton's example in France has been followed with remarkable success by Koeberle ; when Attlee and Peaslee are, with other Americans, maintaining in this branch the position of Western surgery ; when the cases of Keith in Edinburgh, and Grimsdale in Liverpool, give promise of long careers of brilliant success ; and when successful operations have been performed in many of our provincial hospitals, by many private practitioners both in London and the provinces, and in at least five of our metropolitan general hospitals, it is difficult, as the new year opens, to remember without some doubt as to the correctness of memory what was the position of ovariotomy in the opinion of the profession only seven years ago, when 1857 was at its close and 1858 at its dawn.

Yet it cannot be forgotten that the discussion at the Royal Medical and Chirurgical Society in 1850, after the paper of Dr. Robert Lee, was closed by Mr. Lawrence with the question, whether attempts to treat diseased ovaries by surgical operation ‘can be encouraged and

continued without danger to the character of the profession ?'

Assertions were made and repeated, and were never satisfactorily answered, that the profession had no information as to the fatal cases, or the cases in which the operation could not be completed, or in which errors of diagnosis had been committed, by operators who had made known their successes but not their failures. Dr. Clay had steadily continued in the career which he began in 1842, but his operations not being performed in an hospital before numerous professional witnesses and no connected series of his cases being published, his example had but little influence. Dr. Frederic Bird, who was known to have operated thirteen times, had either ceased to operate or to report his cases ; and Mr. Baker Brown (who between his first case in 1852 and 1856 had lost seven out of nine cases) had not operated for more than two years. One solitary operation by Mr. Cæsar Hawkins was the only successful case of ovariotomy which had ever occurred in any of our large metropolitan hospitals. The operation had been performed once in Ireland successfully, but no successful case had occurred in Scotland since Mr. Lizars's partial success in 1825. In some of the most recent of our standard works on surgery ovariotomy was not even alluded to ; in the best works on the diseases of women it was severely condemned ; and our most influential medical review had told us that the operation was one which, ' though it may excite the astonishment of the vulgar, calls neither for the knowledge of the anatominist nor the skill of the surgeon,' and that whenever an operation was performed ' so fearful in its nature, often so immediately fatal in its results, a fundamental principle of medical morality is outraged.'

It was under these discouraging circumstances that, in December 1857, I made the attempt now recorded in the latter part of this volume as the first of a series of cases of incomplete ovariotomy. In February 1858 I repeated the attempt, and the case now stands as the first of the 114 cases of ovariotomy which I have performed between that date and the end of November 1864.

When I began to test ovariotomy by personal experience, I pledged myself publicly to make the results fully known to the profession—to publish every case, whether it was successful or not—and I have scrupulously fulfilled this promise. My first five cases were made the subject of a paper which was read before the Royal Medical and Chirurgical Society, in February 1859. Case after case was published in the medical journals, or the tumours were exhibited at the Pathological Society. Many of the most distinguished surgeons of the age, not only of our own country, but from France, Germany, America, Italy, and Spain, witnessed one or more of my operations, and were thus induced to examine the question for themselves, and to perform the operation. Last year, believing that opposition to the principle of the operation had almost ceased, and that it was at length generally acknowledged to be a legitimate surgical proceeding, I ceased to exhibit all the tumours at the Pathological Society, and to report all the details of my private cases, although I gave the general result from time to time to different societies and enquirers, and every hospital case was published. I now give in the following pages every case, both hospital and private, in which I have either completed or commenced the operation. The list in-

cludes 114 cases of completed ovariotomy, one case in which ovariotomy was performed twice on the same patient, and ten cases in which the operation was not completed. I have also appended five cases of fibroid or fibro-cystic tumours of the uterus, as the removal of these tumours by gastrotomy has a close relation with ovariotomy.

Had the operation been more generally known or accepted, its principles better understood, its details more accurately observed, or its results less open to doubt, I should have felt that the narration of so long a series of cases would have been unnecessary and undesirable. But as it is—with many important practical points still undecided—still feeling myself a constant necessity for referring to the records of my own bygone experience for my own guidance—I think that what I find useful may be also useful to those of my professional brethren whose experience is less than my own. This consideration may, perhaps, explain the plan or arrangement of the work of which this is the first volume.

My original intention was to adopt a more ordinary course; and, after some account of the physiology and normal anatomy, the pathology and morbid anatomy of the ovaries, to describe the symptoms and progress, the diagnosis, prognosis, and treatment of their diseases, illustrating a systematic treatise in the orthodox mode by a selection of cases. But soon after commencing a work on this plan, it began to appear that the cases were, if not the most important, certainly the most original, part of the work, and it seemed to be desirable to use them as the foundation, not as a mere appendix. Other reasons were suggested in favour of this plan. Ovariotomy is

comparatively a new operation. Unlike lithotomy, herniotomy, or amputation, it wants the guidance and it is free from the trammels of tradition or long history. It is hardly fifty years since it was first performed; not forty years since Lizars first attempted it in Great Britain; not twenty-five years since its first performance in a London hospital; there are still many hospitals in this kingdom in which it has never even yet been performed; and there are some few men of eminence and authority in this country, and very many more abroad, who still regard it as an operation which is never justifiable under any circumstances.

These considerations have led me to commence rather than to conclude this work by a simple array of facts, with only a few remarks upon the lessons derived from some of the cases; employing success as an example to induce others to make similar efforts to alleviate suffering and cure otherwise incurable disease, and making use of failure as a warning by which its causes may be foreseen and avoided.

Purposely excluding from this volume anything beyond a record of actual facts, I must refer to the second volume for a summary of the conclusions which may be drawn from the cases now narrated. But I must just state that the results of the 114 cases of ovariotomy were seventy-six recoveries and thirty-eight deaths. Perusal of the cases will show that in very many of the patients the hope of recovery could be but slender, and that very few indeed have died where the conditions, general and local, before operation were at all favourable. Of those who recovered four have died since--one of hemiplegia, two years after operation, and three of abdominal cancer, one

ten months, one four months, and one six weeks after operation. The other seventy-two patients have regained and maintained excellent health. In one only has there been any suspicion of disease occurring on the opposite side. Five have borne children after the operation, mothers and children all having done well after easy and natural labours. As many of these seventy-two women who are now happy and healthy wives and mothers, or single women pursuing their avocations or fulfilling the duties of their station in comfort, would long since have died, if they had not been rescued by ovariotomy, or would now be lingering as miserable invalids through a life of hopeless suffering to be terminated by a painful death, the conclusion is inevitable that ovariotomy is an operation which can no longer be regarded as it was generally seven years ago, and as it is regarded even now by some few; but that it is the clear duty of the surgeon to perform it in certain cases. What those cases are—how we may judge when success may be expected with confidence, when hope and fear are equally balanced, and when failure must be almost certain—it will be my task to point out hereafter. But I cannot send forth this volume without a word of caution. A discovery which has triumphed over opposition of all kinds—honest and scientific, prejudiced and ignorant—may still be ruined by the support of rash, inconsistent, thoughtless partisans, whose failures do not reflect so much discredit on themselves as on the operation which they have badly performed in unsuitable cases. Indications are not wanting that ovariotomy has entered upon this phase of progress; and there is reason to fear that judicious men may be influenced by the outcry of the foolish, and that a triumph

of British surgery which has been won by great labour and care may be arrested before it is complete—may even be converted into temporary defeat—by the indiscriminate support of zealous but injudicious advocates.

In the second volume—a great part of which is ready for the press—I hope to continue this history of my experience, narrating

Cases treated by injection of iodine ;

Cases treated by incision ;

Cases treated by tapping, either by the abdominal wall, vagina, or rectum ; and

Cases progressing without surgical treatment.

Upon this foundation of fact, and after chapters containing much information hitherto unpublished upon the Anatomy, Physiology, and Pathology of the ovaries, I trust that the practical deductions from my experience and researches may be acceptable to my professional brethren and useful to suffering women.

In conclusion, a very pleasant duty remains to be performed. I have to thank most gratefully those gentlemen who have assisted me in the labours recorded in these pages. To Dr. Wilson Fox and Dr. Ritchie I am especially indebted for the descriptions of many of the tumours and cysts removed, and for pathological observations on their origin and formation. The pathological reports of Dr. Aitken, Dr. Barratt, and Dr. Frank have also been of great value ; and to Dr. Wright, who has done so much to make photography useful to medicine and surgery, I am indebted for many of the illustrations selected both for this and the forthcoming volume. To successive house surgeons of the Samaritan Hospital, Messrs. Cooke, Miller, and Phillips, and Dr. Parson, I am

indebted for many of the notes of the hospital cases. But in addition to this small array of fellow-workmen, I have to thank a great number of professional brethren who have assisted me by entrusting their patients to my care. Indeed, every patient, without a single exception, whose case is recorded in the following pages, has been confided to me by some member of the noble profession to which we all belong. Many are old friends. Some were strangers until a common interest in a patient led to an acquaintance which has since ripened into intimacy or friendship. Others, either settled abroad or in some distant part of this country, I regret to feel are still personally unknown to me. But to all alike—at home or abroad, strangers or friends—I now offer this volume, with heartfelt thanks for the confidence which they have reposed in me, and with the hope they will believe that I have not been unmindful of the honour which they have done me, but have endeavoured from the knowledge which they have enabled me to acquire to make useful additions to the science and practice of our profession.

UPPER GROSVENOR STREET, LONDON:

December 30, 1864.

Errata.

- Page 197, lines 6, 12, 19, *for* hyposulphate *read* hyposulphite.
,, 252, last line, *for* effort *read* effect.
,, 305, line 5 from bottom, *for* tumour *read* cancer.
,, 350, ,, 3, *for* discovered *read* diseased.
INDEX, Hyposulphite of soda, *for* page 212 *read* page 312.
,, Pregnancy, *insert* pp. 40, 113, 140.



CASES
OF
OVARIOTOMY.

CASE I.

Multilocular Ovarian Cyst, tapped seven times; Twice injected with Iodine; Rapid Increase; Ovariotomy; Perfect Recovery.

A SINGLE WOMAN, twenty-nine years of age, was admitted under my care into the Samaritan Hospital, on February 9, 1858. She had been a general servant, and was in good health up to the age of twenty-one; she then began to complain of pain low down in the left side, extending to the loins; but she did not discover any tumour until five years later. The tumour increased gradually for a year; and, two years before she came under my care, she was admitted into Guy's Hospital, under the late Dr. Lever, and tapped. After six months she was re-admitted, and tapped again; and a third time, after an interval of thirteen weeks. She went to Lambeth Workhouse in June 1857, and was tapped there four times by Mr. Bullen, at intervals of about two months: the fluid discharged each time averaging about two gallons. Undiluted tincture of iodine was injected twice, but without the slightest benefit; on the contrary, the cyst appeared to fill faster than before.

On admission to the Samaritan Hospital it was evident that her health was rapidly giving way under this repeated accumulation and discharge of two gallons of fluid; but as she was cheerful, her constitutional power moderately good, and she earnestly desired to be relieved, at any risk, of a disease which

made her life miserable, I decided, after consultation with my colleagues, to extirpate the tumour. I performed the operation on February 19, 1858. I first made an incision three inches long in the linea alba, carrying it downwards from an inch below the umbilicus, and thus exposed the cyst, which was adherent to the parietes. After separating some of these adhesions, I emptied the principal cyst through a large trocar. Several secondary cysts were then felt, and the adhesions to the abdominal walls on either side were also found to be very firm and extensive. Some doubt was here expressed as to the propriety of proceeding further; but I felt that it would be more dangerous to stop than to proceed, and accordingly broke down some very firm and extensive adhesions by passing the hand between the abdominal wall and the cyst. In this stage Mr. Baker Brown, who was present, afforded zealous assistance. A slighter adhesion of the upper part of the cyst to the omentum was also broken down by the hand. The peduncle was on the left side, and of the breadth of three fingers. I transfixed it in two places, and tied it in three portions by whipecord ligature. The peduncle was so short that it could not be fastened in the wound. The right ovary was examined, and found to be healthy. The ligature passed through the lower part of the wound, and was carefully fixed to the skin by adhesive plaster. The edges and sides of the wound were brought accurately together by superficial and deep silk sutures, and the abdomen supported by a broad flannel bandage. The patient was under the influence of chloroform for forty minutes. She suffered from nausea and vomiting during the two following days, due, it appeared, rather to the chloroform than to the operation; or, perhaps, to the opium, which was given from the first to keep her free from pain. She had no sign of peritonitis at any time, but suffered a good deal from flatulence; and the pulse was very rapid and feeble for many days. Wine was given freely from the first. There was a very copious fetid sero-purulent discharge from the abdomen, through the portions of the wound kept open by the ligature on the peduncle: on two or three occasions, when the opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after clearing the ligature. The wound united by first intention, except for

about half an inch where the ligatures passed. The bowels were not open until the tenth day, when they moved spontaneously. The ligature around the peduncle came away on the twelfth day, with a large slough attached to it. From this time the patient gradually improved. She became an under-nurse at the hospital; and in the autumn became the sole and general servant in a twelve-roomed house. Here she remained until early this year, doing a great deal of hard work, when she was induced to emigrate to Australia. Just before she embarked, Dr. West kindly examined her for me, on January 25, 1859, and wrote as follows:—‘As your patient was menstruating, I could not make any vaginal examination; but through the abdominal walls there is no trace of tumour perceptible; and there can be no doubt but that the case has been a complete success.’ I heard recently from this patient, who is now happily married to the overseer of an estate in Queensland. They live rent-free with a salary of 240*l.* a year. Had ovariotomy not been performed she must have died in 1858, a pauper in a workhouse.

The cyst weighed, with its contents, twenty-six pounds. The contents consisted of the ordinary viscid fluid, containing many granular cells. The principal cyst formed the upper part of the tumour. The lower part consisted of a number of smaller cysts, which had filled the pelvic cavity, and were moulded to its form. Most of the cysts appeared to have been developed independently of the principal cavity, and independently of each other; small scattered cysts were seen in different parts of the largest cavity, but these were all developed in the substance of the fibrous wall, and were covered by the serous layer extended over the largest cyst. The remarks which I made on this case in a paper read before the Royal Medical and Chirurgical Society were as follows:—‘Looking to the strong fibrous partitions between the principal and the smaller cysts composing this tumour, it is quite evident that no fluid injected into the large cyst could reach the smaller cysts. Hence the important practical deduction, that success can only be reasonably hoped for from iodine injections, when an ovarian cyst is simple or unilocular.’

CASE II.

Multilocular Ovarian Cyst, tapped three times; Ovariotomy; Adhesions to Liver; Perfect Recovery.

A MARRIED WOMAN, thirty years of age, was sent to me in July, 1858, by Mr. Ottaway, of Dover. She was married in 1851, and had three children, but no miscarriage. She was in good health up to the birth of her last child, two years and four months before I saw her. She then noticed that the abdomen did not diminish in size so much as after her previous confinements; she could not say when she first perceived any distinct tumour, but the swelling of the abdomen gradually increased after her confinement until March 1858, when Mr. Ottaway tapped her, and removed eighteen quarts of clear, thin fluid. The sac filled again rapidly, and Mr. Ottaway tapped a second time early in June, removing seventeen quarts of a thicker fluid. It was six weeks after this tapping when she came to town, and she was then becoming oppressed by the quantity of fluid. The catamenia had been generally regular, but had not appeared for eleven weeks until the day she came to town. Owing to repairs going on at the hospital, it was impossible to admit her; and, as she became much distressed in her breathing by the rapid accumulation of fluid, I tapped her at her lodging, on July 15, and removed fourteen quarts of thick fluid. When the sac was empty, I felt some small outgrowths from its wall, on the right side below the false ribs, attached to the abdominal parieties.

The sac refilled rapidly; and, as her general health was pretty good, although she was suffering from the rapid accumulation of fluid in the cyst, and she was very desirous of having the cyst removed, after the danger of the operation was fairly put before her, I performed it, after consultation with my colleagues, on August 11, 1858. As I was very anxious to avoid vomiting after the operation, she took ice for two hours before it; and Dr. Richardson administered a mixture of one part of chloroform to six parts of ether instead of pure chloroform. I had hoped to be able to complete the operation by a small incision, but the separation of the cyst from its attachments was rendered difficult by adhesions between the cyst and its coverings—so intimate that it was not easy to make out the

exact line of separation between them—and it was only after enlarging the incision and cutting into the cyst, that this could be made out accurately. Then the irregular outgrowths from the right wall of the cyst just alluded to were found to consist of an aggregation of small multilocular cysts, which were firmly attached to the under surface of the liver and the coats of the gall-bladder, and it was, of course, necessary to be extremely careful in completing the separation. Mr. P. C. Price rendered very valuable assistance at this stage of the operation. The peduncle was tied by strong twine, in four separate portions, each the breadth of a finger, and the portion left was long enough to be fixed between the edges of the wound. The wound was carefully closed by six hare-lip pins, the lowest pin transfixing both edges of the wound and the peduncle, so as to prevent its sinking into the abdomen. The cyst weighed one pound five ounces, and the contents twenty-nine pounds ten ounces.

The patient slept well at night, and, on the day after the operation, said she did not feel so ill as she had been after her labours. A one-grain opium pill had been given every three hours; but, on account of nausea and occasional vomiting, a morphia suppository was substituted for the pills. The urine was removed by the catheter thrice daily.

On the third day a spontaneous diarrhoea set in, but soon subsided. The wound united by the first intention. Five of the pins were removed on the fifth day, the edges being perfectly united except where the peduncle, transfixed by the lowest pin, kept the lower angle open. The pulse ranged from 120 to 140 until the eighth day, when it was down to 100 for the first time; she then sat up in bed, and did some needle-work.

On the ninth day the peduncle had completely sloughed through, except at one spot, which I secured by a fresh ligature, and removed the old one with the slough. She had a suppository twice a day at this time.

The new ligature on the remnant of the peduncle came away on the tenth day, and from this time she rapidly regained strength; the wound soon closed, and she left the hospital three weeks from the day of operation.

Mr. Ottaway, of Dover, saw her on February 2, 1859, and, in a letter to me, says, he 'found her over the wash-tub,

where she had been all day.' He adds: 'She tells me that she is "as well as ever she was in her life, and much better than she had been for many years past;" that "she does the whole of her household work, and minds her children without help;" that she occasionally walks to St. Margaret's Bay and back, a distance of seven miles, without unusual fatigue; and, in fine, that she could not wish to be better. She looks cheerful and animated, and, from being a sallow, emaciated, unhealthy-looking being, has now the appearance of a person in robust health, muscular and strong. She has menstruated fairly only once since she left the hospital. At the beginning of November she had an appearance, for a day only; since that time, not at all; and as the mammae are becoming more full, attention will be directed to the possibility of her being pregnant.' I have heard of this patient several times since, and she was always said to be in excellent health.

CASE III.

Ovarian Tumour and Ascites; Removal of a Tumour weighing twenty-one pounds, and fifty-seven pounds of Ascitic Fluid; Recovery; Death ten months afterwards of Strictured Intestine.

A MARRIED WOMAN, aged thirty-three, was admitted under my care, in the Samaritan Hospital, on November 1, 1858. She was married ten years before, and had four children, and one miscarriage between the first and second child. The youngest child was three years old, and all her children were living. She was quite well up to her last labour, but did not diminish in size after it. Two months afterwards she began to complain of pain just above the symphysis pubis; and about a year ago first felt a hard movable tumour in this situation. Rapid increase followed. The catamenia had been regular, though scanty, up to the end of May; since then they had ceased.

On admission she appeared extremely weak and much emaciated. She was fifty-seven inches in girth at the umbilicus, and thirty inches from the ensiform cartilage to the symphysis

pubis. She could only sleep in a sitting posture. The heart and liver were displaced upwards; the skin of the abdomen was fissured, and marked by large veins and the cedematous projection of the lineæ albicantes, described by some as 'varicose lymphatics.' The enlargement was quite equal on both sides, and there was the bulging outwards of the flanks characteristic of ascites. Perfect fluctuation was felt equally in all directions over the abdomen. The abdomen was generally dull on percussion, but a clear note showed that the stomach and intestines were lying in the epigastric and right lumbar regions principally, and also in the left lumbar region. The situation of dull and clear sound was not altered by any position of the patient. No tumour could be felt by the deepest pressure the patient could bear. The anterior wall of the vagina was depressed; the uterus admitted the sound for three inches, but the organ was not so freely movable as in the normal state. It was felt to be impossible to say positively if there was ascites (with distention so great that the intestines could not reach the abdominal wall, or were bound down by adhesions), or a large simple ovarian cyst; but, taking the positive statement of the woman as to the previous existence of a hard movable tumour, the most probable supposition was, that an ovarian tumour was surrounded by a large quantity of ascitic fluid. As the line of clear sound on percussion in the epigastrium descended about an inch and a half on full inspiration, it also appeared probable that any tumour was unattached anteriorly.

As the woman placed herself entirely in my hands, after the danger of the operation had been explained to her, I decided, after consultation with my colleagues, to make an exploratory puncture, evacuate the fluid, and then, having everything prepared for ovariotomy, perform it or not according to circumstances.

On November 5, the bowels having been cleared by an enema in the morning, and a morphia suppository having been passed into the rectum two hours before operation, Drs. Aitken and Tyler Smith being among the visitors, and chloroform having been administered by Dr. Priestley, I made a small incision midway between the umbilicus and symphysis pubis down to the peritoneum, introduced a trocar, and drew off fifty-seven pints of thin, turbid serum. A very irregular lobu-

lated tumour was then felt. On exposure and puncture by the trocar, its contents were found to be too thick and glutinous to escape, even when an incision was made into it. It became necessary, therefore, to enlarge the incision sufficiently to admit of the removal of the tumour entire. This was done, and the incision then reached from about an inch above the symphysis pubis to two inches above the umbilicus. Superiorly and posteriorly there were adhesions to the omentum and small intestines. These were easily broken down; but one around the brim of the pelvis was separated with more difficulty. The peduncle was on the right side, very short and broad; it was secured between the blades of a metal clamp, and the tumour was then cut away. There was then very considerable hemorrhage, which at first appeared to come from one end of the peduncle; but, after securing this by a ligature, the bleeding was still unchecked and alarming, and the source was discovered to be a rent in a very large vein on the right side, running along the brim of the pelvis. I caught the sides of the rent with a toothed forceps, and put on a lateral ligature, so as to stop the hemorrhage without also stopping the current of blood in the vein. The abdomen and pelvis were then carefully sponged clean of blood. The left ovary was examined and found to be healthy. The intestines appeared very red, and the peritoneum generally rough, as if from chronic peritonitis. The wound was brought together by nine hare-lip pins and twisted suture; the peduncle and clamp being kept outside the wound.

The progress of the case after operation was almost uninterrupted one of recovery. There was neither pain, thirst, nor sickness. The chief complaint was of flatulence. The pulse ranged from 120 to 130 for a fortnight, and then gradually sank to 110 and 100. The pins were removed on the fifth day, and the wound was found quite healed, except at the spot where the peduncle and ligature passed. The clamp came away on the eighth day, and the ligature on the vein on the ninth. On the tenth day the bowels acted three times after an enema of warm water. From this time she rapidly gained strength, and left the hospital exactly four weeks after the operation, the heart and liver having returned to their normal situations.

The treatment consisted in the use of morphia suppositories,

and of sufficient nourishment and stimulants ; no medicine was given by the mouth : a third of a grain of morphia was given in suppository, at first three times a day, afterwards only twice, and it was discontinued after a fortnight. The urine was removed by the catheter three times a day for the first week, but she passed it easily as soon as the bowels were open.

The tumour as removed, some two or three pints of its contents having been previously emptied, weighed twenty-one pounds. The external capsule was firm, fibrous, and very vascular ; section showed an immense number of imperfect cysts or alveolar cavities, from the size of a pea to that of a small apple, and one large cyst which had contained from two to three pints of viscid fluid. The walls of the cyst and alveoli were very vascular, inclosing a semi-opaque, jelly-like substance, varying in colour from white to dark chocolate in different places, and in consistence from that of firm jelly to that of white of egg. By a little pressure this matter was made to exude easily from the divided cavities. Thus the tumour might be described as a fibrous network, forming irregular cavities containing gelatinous matter. After maceration and squeezing out the contents, the septa were seen to form very imperfect separations between the cavities, and the skeleton of the growth was so far identical with that of colloid or alveolar cancer. Microscopical examination of the viscid tenacious contents led to the belief that it was not true colloid. A great abundance of molecular matter was seen with free nuclei, and small oval or rounded cells about the diameter of blood corpuscles ; also numerous large granular corpuscles, from two to three times the diameter of blood corpuscles, and an abundance of oil globules. When exhibiting this specimen at the Pathological Society, I said : ‘It is a question, however, whether the distinction between the compound ovarian cyst (or multilocular ovarian tumour, or pseudo-colloid disease of the ovary) and true colloid disease is as well made out by any observation of minute structural difference as in the clinical history ; especially in the important fact that the former disease shows no tendency either to reproduction in distant parts of the system or to contaminate neighbouring parts or glands.’

The subsequent history gives some importance to these remarks. I heard of the patient several times after she

returned home, and the accounts were for some time most favourable. Mr. Jardine, of Capel, near Dorking, who sent her to me, wrote, on February 3, 1859, saying that he had not seen her lately, as she had gone twenty miles off for a week or two, but he added, ‘her husband tells me that she is getting stout, and has very good health. She was weighed three weeks ago, and has gained fifteen pounds since leaving the hospital.’ She continued strong and robust until the summer, working in the fields, but in July began to suffer from symptoms of chronic peritonitis, followed by those of obstructed intestine, and she died on August 26. Mr. Jardine examined the body, and sent me one specimen which showed a portion of the abdominal wall containing the cicatrix, the peduncle of the removed ovary adhering to it, and connecting it closely with the uterus; and the left ovary, in which disease had commenced and gone on to the formation of a compound cyst about the size of a small orange. Another specimen, which I also preserved and showed to the Pathological Society, showed two strictures of the ileum, very near the cæcum, caused by cancerous deposit between the peritoneum and muscular coat of intestine. A similar deposit, in small nodules, had been strewed over nearly the whole of the peritoneum and its reflections. Mr. Jardine examined the structure of these nodules microscopically, and reported as follows:—‘The masses are, when small, only between the peritoneum and the muscular coat of intestines, and have a distinct limiting membrane of their own; nowhere appearing to be infiltrating growths. As they increase, the general tendency seems to be to push out the peritoneum, and to become pedunculated rather than to spread flatly under it. The bulk is composed of cells about the size of pus corpuscles, with large nuclei (in some cases almost filling up the cells), refracting light more strongly than the cells themselves. Most of the cells approach the globular form, but many are fusiform and elongated. No nucleoli, but some oil globules in cells, and nuclei, and much free oil; a small amount of fibrous tissue running throughout, but not with definite arrangement.’

CASE IV.

Multilocular Ovarian Tumour ; Ovariotomy ; Death thirty-two hours afterwards.

A SINGLE WOMAN, thirty-nine years of age, was sent to me by Dr. West, and was admitted under my care to the Samaritan Hospital, on January 4, 1859. She had been quite well until between two and three years before. In the autumn of 1856 she first began to complain of pain in the left groin. This increased, but she did not notice any swelling until May 1857, when a tumour was discovered on that side, which had steadily increased in size up to the time I saw her. She was always 'regular' before this, and up to the end of 1857, when the catamenia ceased, and had not appeared since. In October 1858, she had some temporary oedema of the legs, and the growth of the tumour became more rapid. She had lost flesh lately, and was somewhat emaciated, but the complexion was healthy ; she suffered a good deal at times from pain in the abdomen and flatulence, and was very breathless on any exertion ; otherwise in pretty good health. The abdomen was filled by a large tumour, reaching from the pubes to half-way between the umbilicus and ensiform cartilage. Below the umbilicus it was divided by a sulcus which gave the impression of there being two tumours ; and, of the gentlemen who examined the case with me, about half inclined to the belief of there being two, and the remainder thought that there was no evidence of there being more than one multilocular tumour. Fluctuation was distinct, but limited to several small spaces. The fact of the catamenia having entirely ceased for a year was thought to favour the view of both ovaries being diseased. Vaginal examination showed that the uterus was atrophied, and somewhat raised from its natural position. As she was very short-breathed at times, Dr. Graily Hewitt examined the chest, and reported the heart to be healthy, and the lungs also, but that the right lung was compressed considerably by the elevation of the liver and diaphragm.

Taking into consideration the rapid growth of the tumour, its multilocular character, its effects upon the general health, and the hopelessness of any other mode of treatment, I decided, after consultation, to agree to the earnest wish of the patient

to have the tumour removed, a wish expressed after full explanation of the dangerous nature of the operation. It was delayed for ten days on account of an eruption of herpes on one side of the chest; but when this had disappeared, I performed the operation on January 21, 1859, precisely as in the former cases, and after the same preparations. There were no adhesions, nor any fluid in the peritoneal cavity, but from one to two pints of viscid fluid flowed from a very thin-walled cyst, which was lying close to the linea alba. The incision extended from two inches above the symphysis pubis to the same distance above the umbilicus, as the contents of the cysts were too viscid to be taken away, and it was necessary to remove the tumour entire. The peduncle was little more than an inch in length, and of about three fingers' breadth. I inclosed it in a clamp, and screwed this as tightly as possible; but, after cutting away the tumour, one end of the cut peduncle slipped from the clamp, and I was obliged to transfix it, and tie it in two portions to stop rather a free hemorrhage. Some delay was occasioned, and a few ounces of blood were lost. It was also necessary to tie a vessel in a small piece of omentum which had adhered to the cyst. The peritoneal cavity was thoroughly cleaned from all blood, and the edges of the wound were brought together by gilded hare-lip pins. One of these pins happened to transfix a small vessel, and it was also necessary to tie this on both sides of the wound. The peduncle was fixed outside the wound, although not without some tension, and the clamp was then used to prevent any danger from its slipping within the abdomen. The patient had been kept under the influence of chloroform. Her pulse was a very good one at 100 when the operation was concluded. About an hour afterwards, when the influence of the chloroform had subsided, she began to complain of some pain in the abdomen, and a suppository containing one-third of a grain of acetate of morphia was passed into the rectum. The pain continued about an hour, two other suppositories being given at intervals of half an hour. The pain was then relieved, but not entirely so, and a fourth suppository was given after another hour; she then seemed inclined to sleep. The tongue was clean and moist; pulse 104, and soft. Half an ounce of brandy was then given in water. She was refreshed by some sleep, but as she was not quite easy, and the

pulse was up to 112, a fifth suppository was given at half-past 9 o'clock; at 11 o'clock the pulse was 130; skin and tongue moist; six ounces of urine removed by the catheter. There had been no sickness since the operation, and I left general directions to repeat the suppository when pain or restlessness rendered it necessary.

I saw her at 9 o'clock A.M. on the next morning, when the report was that she had had no pain, but did not sleep, and a sixth suppository was given at midnight. After this she had passed a very comfortable night, sleeping soundly from two in the morning. She complained neither of pain nor sickness, though there was considerable distention of the intestines by flatus. The countenance was very cheerful; but only four ounces of urine were removed from the bladder on using the catheter. Pulse 124, soft. She took her breakfast with appetite, and then a seventh suppository was given. She was remarkably well all the forenoon; took some beef-tea with good appetite; said she felt very comfortable, flatulence being the only source of discomfort. With a view of keeping her comfortable, and preventing any return of pain, another suppository, the eighth, was given at noon, but it afterwards appeared that only about half of this had passed from the tube by which it was administered. I saw her at 4 o'clock P.M.; she was then apparently doing well, but I thought the pulse was rather feeble, and there was a slight appearance of anxiety about the eye-brows, and the flatulence was still troublesome. An aromatic draught, with twenty minims of chloric ether, was given, she asked for some tea and drank it, and then, in about half an hour, suddenly went off into collapse, the pulse becoming almost imperceptible, the skin bathed in profuse perspiration, the breathing stertorous, pupils contracted, and on passing the catheter it was found that no urine had been secreted since the morning. Brandy and ether were thrown into the rectum, as she was incapable of swallowing; but she never rallied, and died thirty-two hours after the operation.

Dr. Aitken kindly made an examination of the body for me twelve hours after death. He reflected the anterior abdominal wall over the thighs, thus exposing to view the peritoneal aspect of the wound, the intestines, and the omentum. About the middle of the wound the metallic surfaces of three of the sutures

were visible, crossing the incisions, so that during life they must have been in contact with the peritoneal surface of the intestine. The bowels were greatly distended with gas, and this distention, doubtless, had the effect of separating still more the peritoneal edges of the wound. Dr. Aitken added: ‘The parietal peritoneum in the immediate vicinity of the wound was dotted over with spots of hemorrhagic congestion; and recent lymph was abundantly effused on the surface of the peritoneum. The lymph appeared to spread from the wound as a centre, and gradually disappeared on the peritoneum covering the lateral regions of the abdominal wall. The impress of the wound was obvious on the surface of the gut, in contact with it. Some coagula of blood, and an abundant, consistent, lymphy exudation upon the peritoneal surface of the intestine corresponded to the edges of the incision and surface of the wound. An abundant exudation of recent lymph glued the opposed surfaces of the intestines to each other. This exudation was most abundant, and the process seemed to have been most intense in the immediate vicinity of the wound. It became less obvious, and was entirely absent as the attachment of the mesentery to the back part of the abdomen was approached. The lateral and posterior parts of the abdominal cavity were free from lymphy exudation, and the peritoneum appeared natural. A considerable amount of free liquid was present in the cavity generally; and in some places (as over the anterior margin of the liver, and surface of the stomach and transverse colon) it was pent up within cavities formed by recent exudation. The fluid exudation was of an acrimonious nature, if one may judge from its effects upon the hands after frequent immersion in it, the body being yet warm. The fluid had a pungent, irritant effect upon the thin skin beneath the edges of the nails and surrounding their matrices. The peduncle of the tumour was secured by a clamp outside the wound, and also by ligatures. They embraced the Fallopian tube, a reduplication of the round ligament, the broad ligament of the uterus, and accompanying blood-vessels. The peritoneal surfaces of the pelvis and pelvic viscera were free from lymphy exudations, and appeared healthy; the kidneys were normal. No further examination was made.’

I appended the following remarks on this case to a paper read

before the Royal Medical and Chirurgical Society, February 8, 1859 :—

‘ Seeing that this patient had completely recovered from the shock of the operation, and from the effects of the chloroform, the question arises, What was the cause of her death ? It may be said that after so severe an operation we need not be too curious on this point—that death was what might be expected with far greater probability than recovery. But in the cases previously related the peritoneum had been quite as much exposed ; the adhesions had been more extensive ; in one it had been necessary to leave the ligature on the peduncle within the abdomen ; in the second it had been necessary to separate adhesions to the liver and gall-bladder ; in the third there had been enormous ascites, considerable hemorrhage, and a very large vein had been tied. Yet in all these cases, apparently so much more unfavourable, recovery had been complete. Why, then, did this patient die ?

‘ In the first place, did she get too much opium ? She had two grains of morphia, in divided doses, within ten hours after the operation, and one grain in the succeeding twelve hours. Yet it was not until four hours after the last dose, that any bad symptoms appeared which could be attributed to opium. Possibly the ill effect might have been indirect, causing suppression of urine ; and it is possible that the suppositories were not equally mixed by the druggist ; that some of them given early produced little effect, containing little morphia, while those given later were too strong, and told with too great effect. Still, the reply remains—she was well for four hours after the last dose.

‘ Secondly, did she die from peritonitis ? Some who consider the amount of lymph effused, and the quantity of serum found in the peritoneal cavity, would answer this question unhesitatingly in the affirmative. But I doubt if simple peritonitis was sufficient to cause such sudden collapse. It was partial, confined to the visceral layer opposed to the wounded surface only, not dipping down among the coils of intestine. My impression is, that if peritonitis killed her, it was indirectly, by the formation of a morbid poison. The serum was very acrid : it made Dr. Aitken’s hands smart for some time ; had he wounded himself, in all probability he would have suffered from morbid poisoning. Had he attended a woman in

labour, in all probability that woman would have had puerperal peritonitis. If, then, my patient could generate a poison capable of killing other people, may it not have killed her? It was, probably, formed only from the inflamed portion of the peritoneum, the other portion being quite capable of absorbing rapidly. It will be seen that this enquiry is not without its practical importance, suggesting, as it does, the inference that it may possibly be advisable, in some cases, to provide for a free outlet of the effused serum. I should say that by the use of new sponges only, new flannel, clean bedding, and newly ground or gilded instruments, I had carefully guarded against any putrid infection.

‘Thirdly, had the bleeding from the peduncle or omentum any injurious influence? I should say, if any, it was only indirect, by leading to delay, longer exposure of intestine, and more necessity for cleansing the peritoneal cavity.

‘Lastly, was the sudden collapse an example of that condition so well described by Dr. Simpson, as an occasional occurrence after any operation implicating the uterus and its appendages? He relates cases which had been observed by Lisfranc and himself, when a sudden faint or collapse, without premonitory symptoms, came on after excision of portions of the uterus. He saw it also in a patient upon whom Mr. Syme had performed the perineal section; in two or three cases after the emptying of an ovarian cyst; and once or twice after the termination of natural labour. He adds: “It is an accident which seems peculiarly liable to occur after operations or injuries about the pelvic organs; and no sufficient explanation of it has yet been offered, nor does it even appear that sufficient attention has yet been given to it. I am not sure but that in amputating the cervix uteri, by obviating the necessity of forcibly dragging down the uterus from its position in the pelvis, we do something towards the prevention of this alarming and dangerous complication.” These observations of Dr. Simpson are of great value, for if it were proved that traction upon the uterus was sometimes a cause of fatal collapse, it would lead us, in cases of short peduncle, rather to leave the stump within the abdominal cavity, than to draw the uterus far from its natural position in order to keep the stump of the peduncle outside the wound.

‘Without pretending to any very accurate estimate of the share which each of these agencies may have had in causing death, I will briefly state that the lessons impressed upon my own mind by the case are,—first, that while my confidence in opium, as a preventive of peritonitis and as a remedial agent of great value in its treatment, is unshaken, I shall give it for the future in solution, not in the solid form. In the latter case, one is dependent upon the accuracy of the druggist, and it is possible that solution in the intestine may go on slowly for a time, and that a second or third suppository may be given before the first is dissolved. I shall adhere to the plan of giving it by the rectum, as less likely to induce vomiting or to interfere with the digestion of food, and I shall administer it in solution by a graduated syringe formed to inject one, two, three, or four drachms of fluid with perfect accuracy.

‘Secondly, if with pain in the abdomen there were the physical signs of serous effusion, I would provide for the escape of this serum through some portion of the wound.

‘Thirdly, in a case of very short peduncle, I would either cut away a portion of the cyst, so as to add to the length of the peduncle, or I would rather leave the stump in the abdominal cavity, including it in an india-rubber tube, than exert much traction upon the uterus.

‘Lastly, in bringing the edges of the wound together, I would take care to pass the pins not only through the abdominal wall, but they should pass through the peritoneum some little distance from the wound on either side, so that the divided edges of the peritoneum might be fairly brought into apposition, and no purulent secretion from the wound in the skin, fascia, or muscle could enter the peritoneal cavity.’

CASE V.

Compound Ovarian Tumour; Ascites; Two Tappings; Ovariotomy; Successful Result.

R. W., AGED forty-three, came from Dorking to consult me, and was admitted into the Samaritan Hospital, March 28, 1859.

History.—She had been married twenty years; had had eight

children, seven of whom are living. Her mother is said to have died of ascites, but it might have been ovarian dropsy. Four years ago she was confined with her last child. During her pregnancy she had a great deal of pain in the left side. This disappeared after the labour, but her abdomen did not diminish in size as usual. On the contrary, it continued to increase gradually, but very slowly, until September 1858, when the increase became more rapid. It was not noticed to increase more on one side than the other, but extended centrally from below upwards. Since the more rapid increase she has lost health, strength, appetite, and flesh. The catamenia have been quite regular, but there was a greater quantity than usual last time.

Present State.—She is a large, spare woman, of very sallow complexion, and the skin is blotched in brown patches, very much like ‘bronzed skin.’ Bowels regular; rapid, very feeble pulse. The appearance of the abdomen is well represented by the appended wood-cut, copied from a photograph taken by Dr. Wright, but some months later, just before the operation.

FIG. 1.



The girth of the umbilicus was fifty-three inches, while the vertical measurement from the ensiform cartilage to the symphysis pubis was twenty-eight inches. She had an umbilical hernia long before the commencement of her present disease, and the skin at this spot was thin and transparent, being distended almost to bursting. Between the umbilicus and the

symphysis pubis the skin was œdematosus and the lineæ albicantes very prominent, presenting a very remarkable appearance. No solid tumour could be felt, but fluctuation was very distinct all over the abdomen, though more distinct above, and less below; and, as percussion showed that the intestines were in the lumbar and hypochondriac regions, it was thought probable that an ovarian tumour was surrounded by ascitic fluid. Vaginal examination did not settle the question. The anterior wall of the vagina was somewhat depressed, but the uterus was movable, and no solid tumour could be felt.

Progress of the Case.—Partly because the skin at the umbilicus threatened to give way, and the patient was suffering greatly from distention, and partly to settle the diagnosis, I tapped the abdomen and removed six gallons of pale, amber-coloured, highly albuminous serum. A movable, unattached ovarian tumour was then discovered, apparently about the size of a man's head.

She suffered a good deal from sickness and depression for some days after the tapping, but left the hospital on April 4, provided with an elastic belt and umbilical pad, with directions to return before the abdomen became as much distended as it had been.

She remained in the country until May 7, when she was readmitted. The girth of the umbilicus was then fifty-one inches, and the distance between the ensiform cartilage and symphysis pubis twenty-eight inches. The catamenia had not appeared since she left the hospital, but they came on the day after she returned.

It now became a question whether ovariotomy should be performed at once, or whether an attempt should be made to lessen the shock of the operation by removing the ascitic fluid first, and the tumour in a few days afterwards. After consultation, I decided on the latter course, and removed forty-nine pounds ten ounces of ascitic fluid on May 9. Sickness, tympanites, some pain, and rapid, feeble pulse continued for ten days after the tapping; and it was not until May 24 that she was in a state sufficiently favourable for operation.

Operation, May 24, at half-past four p.m.—I was anxious, if possible, to remove the tumour before much ascitic fluid escaped, in order that this fluid might serve as a protection to

the intestines from the air. Accordingly, as soon as the integuments were divided over the linea alba from two inches above the umbilicus to about the same distance above the symphysis pubis, and some bleeding from superficial vessels had ceased, Dr. Routh pressed the tumour well forwards, as I rapidly laid the peritoneal cavity open throughout the whole extent of the incision. There were only one or two slight omental adhesions, and as soon as these were separated by the hand the tumour was easily removed. The pedicle was formed of the right Fallopian tube, and broad and round ligaments, and was so very short that the clamp used to secure it was placed close to the uterus. The tumour was then cut away, leaving a portion of it projecting as a mushroom outside the clamp. Scarcely an ounce of blood was lost. The opposite ovary (left) was found to be healthy. The wound was united by five hare-lip pins passed through the whole thickness of the abdominal parietes, including the peritoneum, which was perforated on each side at about the third of an inch from the divided edge; the needles perforating the skin on each side at about an inch from the divided edge. Superficial sutures of silver wire were introduced between each pin. The clamp and stump of the pedicle were kept outside on the abdomen, and the wound closed around. Not until the wound was nearly united was the ascitic fluid pressed out. The operation only occupied ten minutes. Lint was placed over the wound, and the abdomen supported by a flannel bandage. The tumour was a good specimen of the pseudo-colloid ovarian tumour, or compound ovarian cyst, and weighed ten pounds. The patient remained rather faint, and very sick for about an hour, when she began to recover. A morphia suppository (one-third of a grain), was introduced at 6 o'clock p.m. A little brandy and water was given, and she began to feel better. At 10 o'clock p.m., as there was some pain, a second suppository was given.

First day after operation.—Vomiting continues troublesome, but she has had a fair night. Pulse 98; skin moist and warm; tongue clean; no pain; urine passed by catheter scanty and high coloured. Six minims of hydrocyanic acid were given in an ounce of water, but it was soon thrown up. Effervescing draughts were given in the afternoon; but the sickness continued, and she kept nothing on the stomach all day; still at night she was cheerful and without pain, and the urine increased in quantity.

Second day.—Pulse stronger than it was before the operation. Some inclination in the bowels to act. Going on well in all respects. There was some abdominal pain in the afternoon, and another suppository was given. Vomiting had continued, but she kept some tea and toast down this afternoon. At night there was sickness and faintness, with small, feeble pulse, and anxious countenance; and small quantities of brandy and iced water were given at intervals through the night.

Third day.—Sickness continues; pulse 120, very feeble; she is very low and faint, and the skin covered with a cold clammy perspiration; breathing a good deal oppressed; urine scanty and high coloured. Finding the physical signs of a large accumulation of fluid in the peritoneal cavity, I removed the clamp; and, after fixing the pedicle by a ligature, introduced my finger beside it, and thus gave exit to several pints of very fetid serum. She felt very much relieved after this. The sickness ceased two or three hours afterwards, and she kept down some cider, to which she took a fancy, and some veal broth afterwards. The pulse ranged to-day between 140 and 120.

Fourth day.—Better all the morning, but in the afternoon she attempted to get to the night-chair (of course against orders), and was very much exhausted afterwards. She was faint, bedewed with cold perspiration; the hands and feet very cold; and the pulse almost imperceptible. Brandy was given freely, and she rallied. Then retching became very distressing, and a turpentine enema was given. This came away with some faeces, and a large amount of flatus. Rum and milk were afterwards injected into the rectum, and brandy was given every hour with water.

Fifth day.—She is rallying. Sickness ceased after some iced champagne which was given this morning. The hare-lip pins were removed, and the wound found well united deeply, though the edges of the skin had not united. There is still a considerable discharge of fetid serum from the lower portion of the wound, where the ligature on the remains of the pedicle passes. Six ounces of strong beef-tea, with half an ounce of brandy, were injected into the rectum three times to-day, and she drank a quart bottle of champagne. A large quantity of flatus passes by the anus.

Sixth day.—Rather better all day; but is much troubled by

flatulent distention of the abdomen. An enema of two drachms of tincture of asafoetida, and half an ounce of turpentine in a pint of thin arrow-root, was given, which came away soon afterwards, followed by a great deal of flatus, and much relief. Pulse has ranged as yet from 120 to 130. The enemata of beef-tea and brandy were continued, and she took champagne freely.

Seventh day.—Pulse down to 108; urine more copious; abdomen much diminished in size. Beef-tea enemata and champagne as yesterday.

Second week.—During this week there was a gradual amendment, though sickness and flatulence were troublesome at times. The ligature came away with the sloughing stump of the pedicle on the eighth day, when the superficial sutures were removed, with the exception of one. Pulse ranging from 108 to 96, until the thirteenth day, when it ran up to 130 after a restless night. In the afternoon of this day there was a very large discharge of fetid pus from the opening left by the passage of the pedicle. She was low and heavy after this for some hours, and complained of cold feet; but some abdominal pain which had troubled her disappeared.

Third week.—This was a week of slow, but steady improvement. She began to take food with appetite; the bowels acted regularly; the pulse ranged from 120 to 100. The urine was passed in natural quantity; the discharge from the wound gradually ceased: she began to sit up; the opening where the pedicle passed very rapidly filled by granulation; she passed good nights, rapidly gained strength, and left the hospital to return to Dorking by railway, on June 20, twenty-seven days after the operation, and she was in robust health when seen there on August 30.

I made the following remarks upon this case in a paper which was published in the 'Dublin Quarterly Journal' in November 1859, and reproduce them now as of some interest to those who study the progressive improvement of ovariotomy:—‘One point of great practical interest in this case, namely, the propriety of removing ascitic fluid surrounding ovarian tumours as a preliminary step some days before ovariotomy, will be further illustrated by the history of the next case. The plan of uniting the wound by including the peritoneum in the sutures is one also

worthy of remark. A third point of importance is the removal of the tumour while the peritoneal cavity is protected by the presence of the ascitic fluid. A fourth is the evacuation of the serum collecting in this cavity after the operation by opening the wound, as suggested in the remarks on the last case. Whatever may be thought of the hypothesis there advanced, it is very clear that, in the case above narrated, the practice so recommended was attended with the most marked success. The first evacuation of the serum was followed by immediate amendment, and some days afterwards the alarming symptoms disappeared soon after the escape of some fetid pus. This was precisely what was observed in Case I., where there was a very copious fetid sero-purulent discharge from the abdomen through the portion of the wound kept open by the ligature on the peduncle. It may be remembered that on two or three occasions when this opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after clearing the ligature.'

CASE VI.

Fibrous and Cystic Ovarian Tumour; Ascites; Tapping; Pleural Effusion; Ovariotomy; Death forty hours after Operation.

E. Q., AGED twenty-nine, was first admitted to the Samaritan Hospital March 20, 1858.

History.—She was married seven years ago; her husband is alive, but she has had no children. First observed a tumour accidentally, low down in the right side, in May 1857. She was attended by Mr. Roper, of Shoreditch, and Dr. Oldham saw her in November. The *ballottement* of the tumour was then so distinct that the possibility of pregnancy was suggested. After this the tumour increased, and the abdomen enlarged rapidly from the collection of ascitic fluid.

State on Admission.—A small, spare, delicate woman, with abdomen larger than a woman at the full period of pregnancy. At the lower part of the abdomen there is a solid tumour freely

movable, not fluctuating. The os uteri does not admit the uterine sound; motion of the tumour is communicated instantly to the uterus. The catainenia have been regular, but rather excessive.

Progress of the Case.—As she was suffering greatly from abdominal distention, I tapped her on March 22, and removed thirty pints of turbid serum. The tumour was then found to be rather more to the right than left side, freely movable, smooth and hard, and measuring about seven inches by six. A certain amount of feverishness and pain followed the tapping, and some pain in the chest, and cough. A sinapism was applied to the chest on the right side. Bitartrate of potash was given three times a day in drachm doses, and small doses of morphia occasionally. She was afterwards put upon cod-liver oil, and a blister was applied. She left the hospital on May 11, a note being taken at the time that the respiratory murmur was puerile on the left side, and defective below on the right side, where there were dulness on percussion, and absence of vocal fremitus.

She remained at home until November 1858, when she was readmitted. At this time there was, as before, considerable doubt as to the nature of the tumour, and it was felt almost impossible to decide if it were a solid ovarian tumour, or a pedunculated fibroid outgrowth from the fundus of the uterus. In order to assist in determining this question, as the uterine sound would not pass the canal of the cervix uteri, I divided the cervix with Dr. Simpson's hysterotome, and the sound then passed to the extent of six inches. This was thought to be conclusive evidence that the tumour was uterine, especially as the catamenia were abundant, and the tumour and uterus moved together in all directions. Then arose the question whether, as the tumour was evidently killing the woman by keeping up the collection of ascitic fluid, it would be justifiable to remove it. This was settled in the negative, on account of the state of the chest; for, after removing the ascitic fluid a second time, there still remained a troublesome cough and dyspnœa. There were the physical signs of effusion in the right pleural cavity, but a good deal of doubt was expressed by different physicians who examined her as to the amount of this effusion, and how far dulness depended on the fluid, on consolidated lung covered by

a thin layer of fluid, or on displaced liver. Under these circumstances it was decided not to interfere surgically. The patient went home again and took a course of bichloride of mercury and bark, under which, with an occasional return to cod-liver oil, the breathing improved considerably, and she recovered some strength; but the abdominal enlargement considerably increased.

She was admitted, for the third time, on June 8, 1859. The tumour had undergone a remarkable change. It was at least double its former size, and, though still hard below, was distinctly fluctuating above. It extended from the pelvis to half-way between the umbilicus and ensiform cartilage. The uterus only admitted the uterine sound two and a half inches, and the tumour could be moved freely upwards without affecting the position of the uterus; though on pressing it backwards the uterus moved in the same direction. The tumour was surrounded by a large quantity of ascitic fluid. The largest circumference of the abdomen was at about an inch above the umbilicus, where the measurement was forty-four inches. The distance from the ensiform cartilage to the symphysis pubis was twenty-one inches, the umbilicus being midway. The general health was far better than before; she was able to walk about, had a good appetite, and slept well, but only when lying on the right side. There was slight cough, but much less than before. The catamenia appeared once last December, but since then she saw nothing till a week ago, when the flow came on, lasted three days, and was in about the usual quantity. She was placed on a liberal diet, with wine and beer, and ten minims of the muriated tincture of iron were given three times a day. The urine was natural in quantity and appearance, contained no albumen, but some phosphates.

A consultation was held, when the state of the chest became the subject of anxious consideration. The presence of some fluid in the right pleural cavity was undeniable; but the lung played with tolerable freedom, and it was decided that there was nothing in the state of the chest to forbid operation. On the contrary, it was hoped that by removing the tumour, the cause of the pleural effusion would also be removed. It was clear that there would never be a more favourable time for operation, as the tumour was increasing rapidly. Still the

operation was decided on rather in compliance with her earnest wish to obtain relief than by the advice of the medical staff.

June 17th.—Dr. Heyendahl of Christiana, Mr. Hood, Mr. Hulke, Mr. Leggatt, Mr. Roper, &c., being present, chloroform was administered by Dr. Priestley, and I commenced by making an incision through the integuments over the linea alba from two inches above the umbilicus curving round it down to two inches above the symphysis pubis. When the bleeding had ceased, the peritoneal cavity was opened to the same extent, the tumour being pressed forwards by Dr. Routh, as some twenty or thirty pints of the ascitic fluid were escaping. It became necessary to extend the incision upwards towards the ensiform cartilage on account of the large size of the tumour. Some rather extensive adhesions of the omentum, and of three portions of intestine were broken down, and then the tumour was pressed out through the wound. A large cyst at the upper and back part of the tumour gave way at this time, and it is probable that some of the fluid contents passed into the abdominal cavity. The pedicle was very short ; or it might almost be said that there was no pedicle, the tumour being closely applied to the right side of the fundus of the uterus, the Fallopian tube, much thickened and elongated, being closely attached to the walls of the tumour. A clamp was passed, however, between the uterus and the tumour, and the tumour separated by cutting it off, leaving a mushroom-shaped piece of it embraced by the clamp. A vessel in the substance of this piece of the tumour bled a little, but it was stopped by putting on a second clamp, and a strong twine ligature, the first clamp not including the whole of the part connecting the tumour with the uterus. The edges of the wound were then brought together by hare-lip pins, including the whole thickness of the abdominal parietes, and by intermediate superficial sutures of silver wire. Before the wound was finally closed, the ascitic fluid still remaining in the cavity was allowed to run out, and the patient was then lifted to bed.

The tumour consisted of a large lower solid portion, simply fibrous in structure, and of a large upper cyst with fibrinous clots adhering to the cyst wall. When the contents were removed the tumour weighed seven pounds and a half.

The patient remained very low for about an hour after the

operation, but recovered after taking some brandy and water, and vomiting. At 7 o'clock P.M. she began to complain of pain in the back and abdomen, which was relieved for a time by an injection of fifteen minims of laudanum and two ounces of water into the rectum. She could only lie on her right side. The injection was repeated at half-past 8, and at half-past 10 o'clock the report is :—‘ Much improved ; skin moist and warm ; pulse 120 ; she slept for the last two hours without waking ; and has not been sick again ; no pain.’ Some clear urine was removed by the catheter.

First Day after the Operation.—Slight sickness continued early in the morning, but she feels much better ; pulse 108 ; tongue moist. The bed being saturated with ascitic fluid, which had continued to dribble beside the clamp, she was put on a dry bed, and the portion of the tumour projecting beyond the clamp was removed, as it was becoming offensive. She complained again at noon of slight abdominal pain, which was again relieved by the opium enema. She slept a good deal during the afternoon ; skin warm and moist ; pulse 100 ; breathing rather rapid, and a wish to cough, which was suppressed, as it caused pain. She took some champagne and brandy and water in small quantities at intervals during the day, but could not keep anything else on the stomach. The sickness increased towards night, and the pulse became more rapid and feeble.

Second Day.—During the night she complained of occasional pain, which she said was relieved by vomiting. Towards the morning the vomiting increased in frequency, and the pulse became more rapid and smaller. Enemata of brandy and water were administered ; but she gradually sank, and died forty hours after the operation.

Examination three hours after Death.—There were from two to three pints of clear serum in the peritoneal cavity, no blood nor clots. The peritoneal aspect of the wound was perfectly united, the pins being quite hidden from view by the fold of membrane on either side. (I preserved a piece of the abdominal wall, including the incision, and showed it at the Pathological Society, to prove the accuracy of the union of the divided edges of peritoneum, when these edges are folded together by passing sutures through them.) There was evidence of peritonitis to a considerable extent in the parietal portion of

the membrane, especially on either side of the wound, and over the folds of intestine in apposition; the portion of omentum which had been adherent was also thick, injected, and hard. The peritonitis did not appear to have extended to the more deeply-situated folds of the intestine. About a pint of serous fluid had gravitated into the pelvic cavity. The peduncle was completely circumscribed by the ligature; it consisted of the Fallopian tube, and broad and round ligaments. The ligature was tied within half an inch of the fundus of the uterus. The opposite ovary was of natural size; but both it and the Fallopian tube appeared to be congested. The uterus appeared to have been the seat of old peritonitis, as there were patches of organised lymph on its posterior surface. In the right pleural cavity there were upwards of six pints of clear serum; the lung was compressed and lying close to the spine, but it was still crepitant, and floated in water; the substance of the left lung was healthy, but there were extensive adhesions of both parietal and inter-lobular pleurae. Nothing unusual in heart or pericardium, except a greater deposit of fat than ordinary near the apex of the heart.

This case, like the third and fifth, is an instance of a class of cases in which ovariotomy is resorted to as a last resource—as the only thing to be done for a patient otherwise doomed to a speedy death. Large solid tumours, surrounded by ascitic effusion in women broken down by long suffering, are among the most unfavourable cases the surgeon can meet with. Yet in the third and fifth cases such tumours were removed with the happiest results; and it appears probable that the plural effusion in the present case had an important influence in preventing the recovery of the patient.

CASE VII.

Multilocular Ovarian Cyst; Two Tappings; Ovariotomy; Recovery.

J. F., AGED twenty-nine, a lady's maid, unmarried, was admitted to the Samaritan Hospital, May 17, 1859.

History.—Has been in good health until eighteen months ago, when she first noticed a hard swelling on the right side.

This increased, and Mr. Burton, of Blackheath, diagnosed ovarian disease. Increase continued, and she was admitted into St. George's Hospital, under Dr. Lee, in August 1858. She remained there ten weeks, and left with directions to return when tapping became necessary. The catamenia continued regular up to November; since then they have appeared every fortnight. She was readmitted to St. George's Hospital on March 1, 1859. She was tapped, and thirty-one pounds of thick amber-coloured fluid removed. After three weeks she went to the country, where she remained for six weeks previous to her admission to the Samaritan Hospital.

State on Admission.—A well-formed, middle-sized, rather delicate-looking person. The abdomen is greatly distended, measuring forty-one inches in circumference at the umbilicus, and nineteen and a half inches from the ensiform cartilage to the symphysis pubis. She suffers great pain from the distention, and from indigestion; the respiration is much impeded; fluctuation very distinct all over the abdomen; dulness on percussion anteriorly and laterally, but clearness in right lateral lumbar region; both lumbar regions, and left lateral lumbar dull; anterior wall of vagina depressed; uterus normal and movable, but pressed backwards; pulse rapid and feeble; thoracic organs healthy.

Progress of the Case.—May 18th. Has passed a very bad night, suffering from distention, but some relief was obtained by opiates and a purgative.

20th. It was decided in consultation that I should tap, and, if the cyst proved to be unilocular, inject iodine; while, if it were multilocular, I should perform ovariotomy if her general health improved, and before the cyst became so much distended again. Accordingly, I removed twenty-three pounds of viscid fluid, sp. gr. 1012, and, by the use of Dr. Hewitt's ovarian sound, satisfied myself that there was a cluster of smaller cysts within the principal one. Iodine, therefore, was not used. Some temporary relief was obtained by the tapping, and she left the hospital on May 27, with directions to return when the girth reached thirty-six inches.

She was readmitted June 22, 1859, in much better health than before, and it was decided, after consultation, that I should remove the cyst.

24th. Chloroform was administered by Dr. Graham Weir, of Edinburgh. Mr. Cumberbatch, Mr. Evans of Torquay, Dr. Fyffe, &c., were present. I made an incision four inches long over the linea alba, midway between the umbilicus and symphysis pubis, dividing the tissues until the cyst was exposed. I then broke down some extensive but very slight adhesions to the parietes, first with the finger and then with the hand, and rapidly emptied the principal cyst by a large trocar; some traction was made on this cyst as it was being emptied, but it could not be withdrawn. A second interior cyst was then tapped and emptied, but the cyst still remained firm. I accordingly enlarged the incision until it extended from the umbilicus to about an inch from the symphysis pubis, and, after separating a large portion of the omentum (which adhered to the upper portion of the cyst) and a coil of intestine, the cyst was withdrawn, and the edges of the wound were carefully pressed together to prevent protrusion of the intestines. The peduncle was short and very broad, but after separating some portions of it, which did not contain vessels, by the hand, it was secured by a clamp fastened close to the uterus, and the cyst cut away, leaving a portion projecting beyond the clamp. Considerable traction was necessary to keep the clamp outside the wound; but this was effected, and the divided edges of the abdominal parietes, including the peritoneum, were united by hare-lip pins and by intermediate superficial wire sutures. The opposite ovary had been examined and found healthy.

The tumour consisted of one large cyst, and a group of smaller ones, containing fluid of very different density: one contained almost pure blood.

She remained depressed for about two hours, when she became restless, and complained of intense pain all over the abdomen. A large linseed poultice, covered with linen so that it could be changed easily, was applied very hot over the whole abdomen, and an enema of thirty minims of laudanum given in two ounces of water. This gave great relief. Sickness continued troublesome, but she passed a tolerable night.

It is needless to give a daily report of the case further, as it was one of almost uninterrupted recovery. The opium enema was repeated occasionally when there was pain. The poultices were used constantly for several days. On the third day she

suffered a good deal from flatus, which was relieved by an injection of turpentine and asafœtida in thin arrow-root, a copious motion following it. I removed the pins on the fourth day. On the fifth the catamenia appeared unexpectedly. On the sixth day she appeared rather low and feverish, and the pulse became feeble and rose to 110. I carefully examined the wound, and pressed out from one to two drachms of very fetid pus from the track of one of the pins. This gave almost immediate relief. Sickness continued troublesome at times during the first week. The clamp was removed on July 2, and the last of the superficial sutures on the following day. A fortnight after the operation she was sitting up in bed, eating and sleeping well, almost free from pain, pulse 80, and the wound quite healed, except at the spot where the peduncle had passed; here there was still a little fetid purulent discharge.

July 14.—Wound healed; convalescent. She left the hospital four weeks after the operation; and I saw her on August 11, strong and well, feeling, she said, ‘better than she ever was in her life before.’ She returned to her duties as lady’s maid, and has fulfilled them ever since. I saw her a few weeks ago in excellent health.

I published the following remarks on this case in the paper before quoted from the ‘Dublin Journal’:—‘The chief differences in the treatment of this case to those previously reported, were the use of very hot linseed poultices to the abdomen, frequently removed; the smaller use of opium; and the earlier clearing of the bowels by enemata. The relief afforded by the poultices was very great and unmistakable. The clearing of the bowels on the third or fourth day by enema, may appear bad practice to those accustomed to keep the bowels confined by opium for a week or ten days; but after trying this plan I have become convinced that it is carried too far, leading to flatulent distention, keeping up sickness, and, probably, doing as much harm as the opposite extreme of those operators who give calomel and black draught if the bowels are not open on the second or third day. In this, as in all other cases, the surgeon would do well to cast aside routine treatment, and, following the dictates of common sense, adapt his measures to the varying circumstances of the case before him.’

CASE VIII.

Ovarian Cyst; Five Tappings; Ovariotomy; Both Ovaries removed; Recovery; Death two years afterwards from Hemiplegia.

J. A., AGED forty-seven; married; admitted to the Samaritan Hospital, June 22, 1859.

History.—Married two years and a half ago, having been employed as a housemaid thirty-three years previous to marriage. Generally had good health; catamenia regular up to the age of forty-three, when they ceased, and only appeared once since, two years ago. Nine months after marriage she noticed some enlargement low down in the abdomen, and to the right side. She thought herself pregnant, and did not go under treatment for nine months longer. At that time she was treated for constipation, but the swelling and pain increased until January last, when she applied to Mr. H. Smith at the Westminster Dispensary, who detected ovarian disease, and tapped her. She filled again, and was tapped nine weeks after the first tapping. The third and fourth time the cyst filled at intervals of only three weeks: the fluid in each case being dark coffee coloured.

State on Admission.—A middle-sized, hectic-looking woman, suffering from great pain both in the abdomen and back, dyspepsia and impeded respiration. A large ovarian cyst occupies the whole abdomen, and hard globular masses could be felt in the walls of the cyst on both sides.

Progress of the Case.—As she was very weak and restless, suffering from great pain and a tendency to vomit, I decided, after consultation, to give some present relief by tapping, and then to endeavour to bring the general health up to a point at which ovariotomy might be performed with a better prospect of success. Accordingly, on June 26, I removed eleven pounds of very thick fluid, which contained a great deal of decomposed blood and coagulated fibrin. (This was afterwards explained by the fact that there had been a good deal of bleeding after the previous tapping.) She suffered from flatulent distention of the intestines for some days, and there was some bleeding from the uterus. This was found to depend on a small polypus growing from one side of the canal of the cervix. I removed

the polypus by torsion. During the next month she was put upon a liberal diet, with wine and beer, and improved so much in general health that it was decided, after careful consultation, to accede to the patient's wish to have ovariotomy performed.

July 25th.—Chloroform was administered by Mr. Armstrong Todd, who used his new inhaler. I made an incision from five inches above the umbilicus, carrying it downwards in the median line, to two inches above the symphysis pubis. One small artery was tied near the umbilicus. The peritoneum was divided along the whole extent of this wound as soon as the bleeding had ceased; extensive adhesions to the parietes on both sides were then broken down by the hand, and the cyst emptied by a large trocar. Adhesions to the omentum and small intestine were then carefully separated; but, before the cyst could be withdrawn, it was necessary to separate adhesions on the left side, by which the broad ligament, sigmoid flexure of colon, and Fallopian tube were united with the cyst walls. The right ovary was that diseased, and the peduncle was formed of the right broad and round ligaments and Fallopian tube; but the left Fallopian tube was much thickened and elongated, and firmly adherent to the back and lower parts of the cyst, where the colon was also firmly attached. All these adhesions were broken down, the pedicle secured by a clamp, and the cyst cut away. There was then very free bleeding from several points where the cyst had been attached, and ten vessels had to be tied. Three of them were on different parts of the left Fallopian tube, and as this appeared to be so large and thick, and the left ovary (probably atrophied) could not be found, the tube was tied to the clamp, and fixed outside the lower part of the wound beside the peduncle. The wound was then united by harelip pins and superficial sutures, as in the cases previously reported. The ligatures were brought out about the centre of the wound.

The tumour was found to consist of one very large cyst with a number of smaller cysts, and masses of semi-solid, pseudo-colloid substance in its walls.

It is unnecessary to follow the daily record of the case after operation, as it is merely one of almost uneventful recovery. Warm linseed poultices were kept on the abdomen; an occasional enema of twenty drops of laudanum in two ounces of water was given when there was a little pain; the pulse varied from

90 to 112 during the first week ; there was no vomiting till the third day ; the hare-lip pins were removed on the third day, and the superficial sutures on the eighth. The wound united by first intention. The clamp was removed, and the bowels opened by warm-water enema on the fifth day. During the second week the only annoyance was from accumulation of flatus in the intestines, which was removed by the use of warm-water enemata. She had taken very little nourishment at first, but she soon began to take beef-tea, soda-water and brandy, wine, and then the *mistura viui gallici*. On August 5, two grains of quina were given three times a day, and on the 8th, the dose was increased to three grains, as it seemed to have a good effect in diminishing the flatulent distention of the stomach and intestines. At the end of the month the wound had perfectly united, and the lower part had closed around the projecting end of the Fallopian tube, which was about the size of a strawberry. As she was anxious to leave the hospital, and was otherwise well, I removed the little projection on August 31.

The following remarks are taken from the paper before referred to, as having been read before the Royal Medical and Chirurgical Society :—‘ The chief peculiarity in the progress of this case after operation was the absence of vomiting. In my previous cases vomiting has been the most distressing symptom. The recommendation to give ice, or ice and opium, for some hours before the operation, was tried in the previous seven cases, but proved utterly useless. Ether was given instead of chloroform in the second case, also without any good effect. In my earlier cases I gave opium every four or six hours, or equivalent doses of morphia by suppository, keeping the bowels confined for eight or ten days after the operation ; but thinking that this kept up sickness, and that the constipation led to flatulent distention, I discontinued this practice, only giving opium by enema, in small quantities occasionally, when it was called for by pain, having the bowels opened about the fourth day by enema. The results of this treatment, combined with the constant use of hot poultices to the abdomen, have been most satisfactory. The patients have been in a far more natural state than before, suffering less from depression, nausea, pain, or flatulence, while the pulse has not been so rapid. Still the vomiting has been troublesome, and I determined to

discontinue the use of ice before operation ; it was not given in this case, but it would be unfair to attribute the absence of vomiting to this omission, as Mr. Todd finds that he is enabled, by the use of his inhaler, to keep patients narcotised by so small a quantity of chloroform that vomiting is rare. Further observation, however, is needed to settle this important practical question.'

I saw this patient several times during the year which followed the operation, and she was remarkably well. She once complained of some hysterical symptoms, but I did not hear of her again, until I heard that she died, two years after the operation, of hemiplegia. She had been in the Westminster Hospital, but no notes of her case were preserved. I examined the body after death with Mr. Coombs of the Wandsworth Road, and then found that not only the left Fallopian tube as well as the right ovary had been removed, but that the left ovary (which could not be found at the operation) had also been removed. It was probably atrophied and so connected with the tube as to be indistinguishable. I have kept the portion of the abdominal wall, which shows the cicatrix and the two pedicles adhering to it. They were long enough to leave the uterus in its normal position.

CASE IX.

Large Multilocular Cyst; Twice Tapped; Ovariotomy; Tetanus; Treatment by Woorara; Recovery; Birth of a Child thirteen Months after Operation.

EARLY in August 1859, I saw the wife of a respectable tradesman residing near me, and suffering from an ovarian tumour. A few days before, she had seen a surgeon whose experience of ovariotomy was at that time larger than my own, and who told her after consultation that 'her health was so bad that it would be madness to think of operation.' She was forty-one years of age, had been married twenty-five years, and had had ten children, the youngest being three years old. There had been no subsequent miscarriage. The catamenia had appeared every three weeks regularly, as they had done all her life—'very much so always.' She had been bled after the birth of her second child twenty years ago, on account of metritis, after adherent

placenta. For many years friends had told her that pregnancy made no difference in her size, and had teased her about never being smaller. She had adherent placenta in several labours, and had not been well for many years, suffering constantly from pain and difficulty in breathing and getting about. She had a very anxious, careworn aspect, and the skin was extremely dusky, almost 'bronzed' in tint. Having some fear of malignant disease from this aspect, I requested Dr. Rigby to meet me, and, upon his advice, I tapped her on August 18, removing a small pailful of chocolate-coloured fluid. This gave some temporary relief; but it was of short duration. Dr. Priestley saw her for me during absence from town; and Mr. Henry Smith tapped her by Dr. Priestley's advice in September. Again the relief was but very temporary, and she determined to submit to ovariotomy.

I performed the operation on October 6, 1859. Dr. Priestley administered chloroform, and Dr. Druitt, Dr. Wilson of Florence, Dr. Bloomenthal, Mr. Henry Smith, and Mr. Thomas Smith were present. The tumour consisted of a cyst holding thirteen pints of fluid, of a number of smaller cysts, and masses of semi-solid colloid character in the walls; the whole weighing about twenty-seven pounds. The incision was five inches long. Two small vessels were tied in the integuments, and four in a portion of omentum which had adhered to the upper part of the cyst. There were no other adhesions. A broad peduncle was secured by a clamp, and fastened outside the abdominal wound without much traction. The wound was closed by hare-lip pins passed through the whole thickness of the divided abdominal wall, including the peritoneum, and by superficial wire sutures. The ligatures on the superficial and omental vessels were brought out at the upper part of the wound.

The case went on so well that the only medicine taken for several days was one dose of twenty minims of laudanum. Hot linseed poultices were applied to the abdomen. The wound healed by first intention with the exception of the spots where the ligatures and peduncle passed. The clamp and hare-lip pins were removed on the 9th, three days after the operation. On the 12th, six days after operation, one superficial and two omental ligatures came away. The bowels acted after an enema of olive oil and warm water, and the other ligatures came away

the next day. The superficial wire sutures were left two or three days longer. She continued extremely well, and was up and dressed on the sofa on the 20th, fourteen days after operation. At this time there were two or three small granulating points at the upper part of the wound, where the ligatures had passed, and the stump of the peduncle, about the size of half a nutmeg, was closely surrounded by the lower angle of the wound. There was a small slough on the upper side of this stump, and a little fetid discharge.

On the 21st, fifteen days after operation, she complained of a little stiffness about the jaw, and some difficulty in swallowing. She had made the same complaint for two or three days, beginning on the fourth day after the operation, but it had passed off as a sore throat and stiff neck, caused by a draught of cold air to which she had been accidentally exposed, without any treatment beyond the use of a piece of flannel. She has since told me that the uncomfortable feeling about the throat never entirely disappeared, but she hardly noticed it until it increased on the fifteenth day. My suspicions of tetanus were then excited, but I hoped the symptoms would pass off as they had done before, and merely ordered a belladonna liniment to the neck, and extra flannel.

On the following day there was some slight increase of previous symptoms, and some difficulty was felt in opening the jaw; still, as the bowels were open, the urine natural in quantity, the pulse only 90, and there was no appearance of fever, I did not think it advisable to interfere.

The next morning (which I shall call the third day of the tetanic symptoms, although, as I have stated, they had been present to a very slight degree for several days before) I found all the symptoms increased. The jaw was firmly closed, and her tongue had been severely bitten more than once during the night. Choking sensations were produced by the least attempt to swallow, but the pulse and respiration were normal, and there were no other muscles affected but those of the neck and jaw. I ordered an enema of turpentine and castor oil, and after this had been repeated, the bowels were freely relieved. I then determined to treat the case exclusively by woorara, and at once commenced a search for some of the extract; but though all the principal druggists were applied to, I did not succeed in procuring

any until the next day, the fourth of the tetanic symptoms. Several severe convulsive attacks had occurred during the night. The jaw was so firmly locked that the tongue could not be seen. Any attempt to swallow produced distressing spasm and dyspnœa. The face had a well-marked tetanic character, the sardonic smile and the wrinkling of the forehead being most striking. The pulse varied from 90 to 100. In the afternoon I procured two grains of woorara from Dr. Althaus, who warned me that it was a very powerful specimen of the poison. I dissolved the two grains in one ounce of distilled water, and at 3 P.M. applied half a drachm of the solution on a small piece of lint to the bare end of the peduncle, at the lower part of the cicatrised wound, covering the lint with oiled silk. Three hours afterwards, a very severe attack of spasms and suffocative dyspnœa came on. At 8 P.M. all the symptoms were aggravated, and the head was violently drawn backwards. I then injected into the cellular tissue just over the angle of the lower jaw, on the left side, twenty minims of the solution, containing one-twelfth of a grain of woorara. The state of the patient almost immediately afterwards was very alarming. She fell backwards as if dead, and the pulse and respiration both stopped for several seconds. She was very pale, but after deep sighing inspirations and fluttering pulse, she was able to swallow a little brandy, and soon recovered. After a few minutes, the inability to swallow was as great as ever, and the jaw quite as firmly locked. I was unable to satisfy myself whether this faintness was a mere effect of the puncture, of which she had expressed dread, or of the action of the woorara. If the latter, I can only explain so powerful an effect from the twelfth of a grain by supposing that I had accidentally punctured a small vein and thrown the solution directly into the circulation. I was unwilling to repeat the experiment, however, and therefore applied a small blister to the nape of the neck, to prepare an absorbing surface. Chloroform was left to be used, if necessary; but she found it led to a painful sense of nausea and constriction in the throat, and would not use it.

On the next day, the fifth, Dr. Harley saw the patient with me. She was decidedly better. She could just get the point of her finger between the teeth. She had slept pretty well, and had had only one convulsive attack during the night. Half a drachm of the solution was applied to the peduncle, and the

same quantity to the absorbing surface on the nape of the neck. The wound was not disturbed, but the neck was redressed every three hours.

On the sixth day she was again better, and was able to swallow a little liquid. I should have said that for the first three days enemata of beef-tea had been given repeatedly. The woorara solution was used as before during the day, but the dressing was not changed at night, as the supply was nearly exhausted.

She had two severe convulsive attacks during the night, and the teeth were set rather closer on the morning of the seventh day. Dr. Priestley saw the case with me, and as a castor-oil enema given the day before had not acted, six grains of calomel were placed on the tongue, and the enema repeated. As the first blistered surface was healing, another blister was applied. During the day Dr. Carpenter kindly supplied me with twenty grains of another specimen of woorara; and the use of the solution was resumed, and continued as before. The bowels acted very freely during the night.

On the eighth day she was weaker. She seemed to have been a good deal exhausted by the purging; but the tetanic symptoms were not aggravated. The blisters were dressed every four hours with the solution; and four grains of woorara had been used since the first application.

On the ninth day there was some slight improvement; but the abdominal muscles became excessively hard. The bowels were opened by an enema, and the woorara continued as before.

On the tenth day she seemed much better. She could get her finger quite between her teeth for the first time; but the attempt to swallow still produced sensations of choking, and she was much distressed by almost ineffectual efforts to cough up thick, viscid, frothy mucus.

On the eleventh day she began to swallow much better; and as six grains of the woorara had been used, I discontinued it. The urine at this time was scanty, and highly charged with lithates. I gave some of it to Dr. Richardson, who experimented with it on frogs, and believed that it produced in them distinct tetanic spasms. He repeated the experiment in my presence afterwards, but without effect. The urine, however, had decomposed in the meantime.

It is unnecessary to give a daily report of the case after this. I had to record a gradual but very slow improvement. She remained pretty well during the day; but every night the cramps in the legs, the choking sensations, and biting the tongue returned as soon as she slept; and the dread of this kept her awake the greater part of the night. The abdominal muscles also remained very hard and board-like. She did not leave her bed till November 4, the fifteenth day after the tetanic attack; and it was not until some days after this that she could swallow any solid food. She went out for the first time on the 19th. At this date the wound and peduncle were completely cicatrised. There was no stiffness of the jaw, very slight hardness of the abdominal muscles, and the bowels acted daily; but at night she was occasionally roused from sleep by cramps in the legs, which diminished, but slowly, in severity. Recovery, however, was complete; and she was attended in labour thirteen months after the operation by Dr. Ridsdale, of Euston Square, who had attended her in previous confinements, and who told me that the labour was perfectly easy. She and the child have both remained well. I saw her very lately in robust health.

CASE X.

Ovarian Tumour of twenty years' duration; Ovariotomy; Adhesions to Cæcum; Death on the fourth day from Peritonitis.

AN unmarried lady, thirty-seven years of age, applied to me in October 1858, with an elastic obscurely fluctuating tumour, which filled the lower part of the abdomen up to about two inches above the umbilical level. She fixed the duration of the disease at about nine years; but her medical attendant in the country, Mr. Huxtable, told me that he believed it dated from about twenty years before I saw her, or when she was about sixteen years of age. At that time she had a fall, and was supposed to have injured her spine; but it seemed probable that ovarian disease had commenced about that time. Dr. F. Bird saw her twice with me in October; and he agreed as to the presence of a semi-solid ovarian tumour which it would be

useless to tap, and which could only be cured by ovariotomy. The only question was *when* the operation ought to be done; and it was arranged with the patient and her friends that it should be done as soon as serious symptoms clearly dependent on the tumour should make the necessity for its removal manifest. Dr. Rigby saw her with me in November, and had great doubt as to the nature of the tumour. He could not introduce the uterine sound, and suspected fibroid tumour of the uterus, or possibly some growth from the spine; or, from the chloro-anæmic aspect, some malignant growth from the peritoneum. He concurred in the propriety of delay, and the patient returned to the country.

In January and February 1859, Dr. Bird and Dr. Priestley saw her again with me, and a further delay was agreed upon. She was in much lower spirits than before, looked worse, and suffered more from dysmenorrhœa. During the spring and summer I had several desponding letters from her, and I saw her twice in September when very much shaken by pain. Early in October it was settled, after consultation with Dr. Priestley, to do ovariotomy soon after an expected menstrual period was over. This commenced on the 5th and ceased on the 8th; and, as she seemed as well as she was ever likely to be, I performed ovariotomy on the morning of October 11. Dr. Priestley administered chloroform, and I was assisted by Mr. Huxtable, Mr. Henry Smith, and Dr. Aitken. Regarding the tumour as semi-solid, I made an incision from two inches above the umbilicus downwards to two inches above the symphysis pubis, dividing a very thick layer of fat. One superficial vessel was tied. On dividing the peritoneum, a non-adherent tumour was exposed and turned out entire, after slightly enlarging the incision. It was the size of a very large adult head, and very firm; but on making an incision into it, nine pints of thick yellowish fatty fluid were collected from a cyst, the walls of which were about an inch thick, and which was so closely attached to the right side of the uterus and to the iliac fossa, that it was with considerable difficulty a long clamp was passed between the uterus and the base of the cyst, after tying and dividing a strong band of attachment to the cæcum. The tumour was then cut away; and the clamp and stump were kept outside the abdomen, although with considerable difficulty, owing

to the thickness of the layer of fat. The upper portion of the wound was united by three hare-lip pins. Two silver sutures were passed below them, and superficial sutures were placed between the deep ones. The skin was protected from the edges of the clamp by lint, and a layer of cotton wool was secured by a flannel belt.

She remained depressed throughout the day, and had a good deal of pain. In the afternoon sickness came on. I had injected a quarter of a grain of morphia three times in succession under the skin of the forearm; but she obtained more relief from half a drachm of the solution of the bimeconate of morphia injected into the rectum. A fair quantity of normal urine was removed by the catheter, hot linseed poultices were applied over the whole abdomen, and some champagne was given two or three times.

First day after operation.—She was cheerful in the morning after a tolerable night, and remained pretty well all day, only complaining at times of pain in the loins.

Second day.—Forty-eight hours after operation, I removed the dressing for the first time, and cut away the slough which projected beyond the clamp. The wound appeared to be soundly healed. Flatulence had been troublesome during the night. The urine was still normal. Pulse 100, not feeble. Skin warm, but not perspiring. In the afternoon one grain of oxalate of cerium was given twice, on account of a tendency to vomit; but more relief was obtained by sucking ice. In the evening flatulence became troublesome, and two drachms of turpentine, with some olive oil and gruel, were thrown into the rectum. This failing, half a drachm of solution of bimeconate of morphia was injected, with two ounces of beef-tea. The pulse was up to 120, rather fuller and harder, and there was some throbbing headache.

Third day.—Flatulence and pain had led to a bad night. The dressing was soiled by fetid discharge, and the clamp had separated the edges of the lower part of the wound; but the peritoneum was firmly united round the stump, so that only fat was exposed. I then removed the clamp very easily, and tied one small vessel which began to bleed on the sloughy surface of the stump. Then, leaving a sufficiently free opening for discharge, I brought the edges of the lower part of the wound

together by two silver sutures, and afterwards removed the hare-lip pins, and applied broad slips of plaster in their place. The pulse was still 120, soft, but not feeble. In the afternoon I found her quite faint from the severe pain which the flatulence caused. Mr. Huxtable, who had been unremitting in his attention, had given some morphia by the mouth. I repeated this with some wine and morphia by the rectum; but it was followed by an aggravation of the pain, and it became so severe that I put her under the influence of chloroform, and passed a long elastic catheter up into the colon. No gas escaped, although the colon was greatly distended and tympanitic. After injecting some warm water through the tube and leaving it for an hour, she was somewhat relieved. In the evening this was repeated, and some fluid faeces with gas came away. She felt better than in the afternoon; but the pulse was 140, and very feeble, and the tympanites was considerable. A good deal of sanguous discharge came away from the lower part of the wound.

Fourth day.—Vomiting of dark green fluid came on during the night, and she felt relieved, but the pulse was still very feeble at 140. Beef-tea was injected into the rectum, and the bowels acted in the morning with relief. But the vomiting of dark green fluid recurred. I removed the deep silver sutures. The lower part of the wound was not united superficially, but deep union prevented exposure of the peritoneal cavity. Stimulants were given freely both by mouth and rectum; but she became gradually weaker, and although quite sensible, cheerful, and hopeful till half an hour before death, she sank in the afternoon, 102 hours after operation.

Dr. Aitken examined the body with the assistance of Mr. Huxtable. The abdomen was so enormously distended with flatus that part of the wound had been opened after death, and intestine could be seen beneath the strips of plaster. A great deal of greenish fluid had flowed from the mouth, drenching the pillow. The muscles of the right thigh were atrophied, so that the limb was smaller than the left, and the left hip was more projecting; but the spine was straight. The folds of intestine near the wound were united together by lymph effused at the spots where the folds came into contact with each other. There was no recent lymph, and only about a pint of serum in the most dependent parts of the peritoneal cavity; but bands of

old organised lymph connected the under surface of the liver to the colon, passing over the gall bladder. Here also there were some signs of recent peritonitis. The right ovary and broad ligament had been removed close to the uterus. The remains of the broken-down attachment to the cæcum could be traced. The left ovary was larger than a walnut, and incipient cystic disease was apparent. It was firmly united to the sigmoid flexure of the colon, just as the right ovary had been to the cæcum.

This was never a promising case, but after all was over I regretted very much that the operation had not been done some years before, and that I had not done it as soon as she applied to me. The adhesions might have been less extensive, the health less broken down, and the left ovary would not have begun to add to her sufferings. But neither the patient herself, nor her friends, nor the physicians who consulted with me, felt it right to have a hazardous operation performed in an unpromising case until life was seriously threatened. So that although by the delay the probability of recovery was lessened, life was not much shortened by the failure.

CASE XI.

*Compound Ovarian Cyst, weighing forty-five pounds ;
Ovariotomy ; Secondary Hemorrhage ; Recovery.*

W. M., AGED twenty-nine, single, was sent to me by Dr. Jackson, of Barnsley, and admitted to the Samaritan Hospital, October 8, 1859.

She was in good health until about a year before, when she first felt pain in the right iliac region. This drew her attention to the part, and she noticed a swelling, which soon began to increase, and went on until her breathing was much impeded, and the abdomen greatly distended. The catamenia had always been regular, and normal in quantity, until about three months before admission, when they ceased entirely. She was tapped about five weeks before admission, but only between two and three quarts of fluid escaped, and the distention was only slightly diminished. On admission, she was very pale, weak, and emaciated. The pulse was feeble, but the tongue was clean,

and appetite good. There was a small bed-sore on the sacrum. The abdomen was distended by a large multilocular ovarian cyst. The circumference at the umbilicus was thirty-six inches, and the length from symphysis pubis to ensiform cartilage seventeen inches. It was decided on consultation to perform ovariotomy without delay.

On October 12, chloroform having been administered, I removed the tumour by the small incision—dividing the abdominal parietes over the linea alba to the extent of about four inches midway between umbilicus and symphysis pubis, thus making an opening just large enough to admit one hand. Passing this all over the surface of the cyst, I broke down some extensive adhesions to the parietes, and then emptied several of the larger cysts through a large trocar, drawing them out one after the other as they were emptied. Some portions of semi-solid matter and aggregations of small cysts were drawn out, and a short pedicle secured by a clamp about an inch from the right side of the uterus. The left ovary was found to be healthy. The abdominal and pelvic cavities were carefully cleaned by sponging, two small vessels were secured by ligature, the clamp fixed on the surface of the abdomen, and the wound accurately closed by deep and superficial wire sutures; four of the former being passed through the whole thickness of the parietes, including the peritoneum. The tumour consisted of a few large and a great number of small cysts filled with a viscid fluid, the whole weighing about forty-five pounds.

It is unnecessary to follow the daily notes of the progress of this case, as for the first week it was one of gradual recovery. There was so little pain that no medicine was given either by mouth or rectum during the first four days. The pulse remained feeble, ranging from 80 to 100, and perspiration was very profuse. There was very little vomiting. Hot linseed poultices were kept to the abdomen, brandy and soda-water, port wine, beef-tea, and the brandy-and-egg mixture of the Pharmacopœia, were given at short intervals. On two or three occasions, on the fifth and sixth days, when there was a little pain, twenty minims of laudanum in an ounce of water were thrown into the rectum. The bowels acted spontaneously on the fourth day. The clamp was removed on the same day, as well as the deep sutures. She went on remarkably well until the tenth day, when the wound

was perfectly united, with the exception of a small depression at the lower part, where a small slough on the stump of the peduncle interposed. On wiping away this piece of slough, very free hemorrhage took place suddenly, and several ounces of blood were lost during ineffectual attempts to find the bleeding vessel. I then applied a saturated solution of the perchloride of iron in glycerine, which instantly arrested the hemorrhage. She did not appear worse for the bleeding, but did not improve during the next three days, and on the fourth day the bleeding recurred. The clot formed by the perchloride had been loosened, and the hemorrhage was rather alarming. On carefully wiping away all clot, I then discovered that the bleeding vessel was not in the peduncle, but was a small artery in the parietes, which had apparently been wounded in passing the lowest suture. This was tied, and no further bleeding took place, but there was for some days rather a free discharge from the lower part of the wound of fetid sero-sanguinolent grumous fluid and broken-down clots of blood. Subsequent cases have led me to suspect that I was alarmed unnecessarily by this bleeding, and that it was nothing more than menstrual blood escaping by the open Fallopian tube. She remained weak for some time, and the bed-sore, which she had before the operation, increased and caused her a good deal of pain; but she gradually gained strength, and left the hospital in a very good state of health on the 7th inst. Dr. Jackson wrote to say that she bore the long railway journey to Barnsley very well, and was 'in the enjoyment of capital health and spirits.' When on a visit to Yorkshire, two years afterwards, I saw her perfectly well.

CASE XII.

Ovarian Cyst weighing fifty-three pounds excised; Tetanus; Asafætida and Woorara; Death on the tenth day.

IN October 1859, a married lady, thirty-eight years of age, was sent to me by Dr. Whipple of Plymouth. She was in fair health, though of a very nervous temperament, and subject to hysteria. She was suffering so much from a very large ovarian tumour that excision was recommended without delay. I operated on

October 28, and removed a compound cyst, weighing with its contents fifty-three pounds.

Mr. Armstrong Todd administered chloroform. The patient was so nervous that upwards of half an hour passed before she could be brought under its influence. Dr. Priestley, Dr. Frank, Mr. Wagstaffe, and Mr. Henry Smith were present. By breaking down the smaller cysts within the larger cyst, and emptying them, I was able to remove the whole through an incision only four inches long. Some parietal adhesions, and an adherent portion of omentum, were separated without difficulty. The peduncle was secured by a clamp, and fixed outside the wound, though not without difficulty, owing to its shortness. The wound was united by deep and superficial sutures.

Occasional marks of hysteria showed themselves after the operation; but she, nevertheless, went on in the most satisfactory manner. The wound healed by the first intention. The pulse scarcely ever exceeded 90. She slept and took food well, was extremely cheerful, the clamp had come away, all the deep sutures had been removed, and a small slough on the bare end of the peduncle was all that required dressing. The bowels had acted, and the urine was passed naturally. On the morning of November 4, the seventh day after operation, she was perspiring profusely, and her bedding and clothing were changed. It was done with due care, but it afterwards appeared that she had felt a chill. She remained extremely well, however, all the day; but late at night, after my visit, she had complained of some difficulty in swallowing, and stiffness about the jaws. This had increased, and I found her on the morning of the eighth day after operation with marked trismus. She could not open the jaw, put out her tongue, nor swallow. She was perspiring profusely. The pulse was 96, and tolerably full. The stump of the peduncle was very nearly clean. I removed two superficial sutures, and found the whole wound accurately united. It was not at all irritable, nor was there any abdominal tenderness.

Many years before, I had seen a case of tetanus in a hysterical lady recover under the use of asafœtida injections; and I preferred adopting the same treatment in this case before trying woorara. Accordingly, I directed that free perspiration should be kept up, the throat covered with hot flannels, and an enema of half an ounce of tincture of asafœtida, given with the same

quantity of castor oil in a pint of barley-water every two hours, until the bowels were freely open. They acted in the evening, and then half an ounce of tincture of asafoetida with two ounces of strong beef-tea were injected every three hours.

On the morning of the next day I found that the injections had been given, but that they had partly come away almost immediately, with a little fluid faeces. She had no spasms during the night, but was still quite unable to swallow. The voice was very feeble. The jaws were firmly closed, the under teeth being drawn behind the upper. The masseters were very rigid. The supra-sternal fossa was very deep from rigidity and prominence of the sterno-mastoids. She complained of a recurrence at intervals of a ‘curious pain’ in the back and abdomen. There was no rigidity of the abdominal muscles, and some tympanitic distention of intestine. The wound was quite healed, and firmly closed around the stump of the peduncle, which appeared like a nipple at the bottom of a deep depression. A small slough still adhered to its upper part. Here I applied solid nitrate of silver.

The asafoetida was discontinued, as she complained of the taste and smell. Her breath was strongly charged with it. Enemata of half a pint of beef-tea with four ounces of port wine were given every four hours. They generally came away in part about half an hour after being thrown up. She remained much in the same state all day, the pulse about 96, totally unable to swallow, but finding relief from rubbing the gums with ice. Towards night the rigidity of the muscles of the back of the neck and the back increased, and there was more pain. I wished her to breathe a little chloroform vapour occasionally, but she complained of the same ‘choking sickness’ as the patient in Case IX., and would not use it. During the night the pulse got up to 120, the tetanic spasms recurred more frequently, the muscles of respiration were affected, and she was constantly endeavouring to clear away tough viscid mucus from the throat, doing this with great difficulty, as the teeth were so firmly closed.

The next day, the tenth after operation, the third of tetanus, was her last. All the symptoms before described were aggravated, but now when the tetanic convulsions recurred, instead of refusing chloroform, she eagerly made signs for it. She spoke

with difficulty, but her mind was clear to the last. She could not remain in bed, and was propped up on her side in an arm-chair and covered with blankets. Opisthotonus was most marked. The enemata of beef-tea and wine were continued, but they came away almost immediately. In the course of the forenoon I inoculated the fore-arm with half a grain of woorara moistened to the consistence of treacle. The friends fancied that the spasm and rigidity certainly diminished for two or three hours after this application, and that then they began to increase again in intensity. I then inoculated the other arm in the same way. Again the intensity of the spasms diminished, but I think rather from a gradual failure of vital power than from the influence of the remedy. In spite of injections of beef-tea, port wine, and brandy, she continued to sink, and died at nine in the evening. She had repeatedly asked me to lance her throat, and I was prepared to perform tracheotomy, had there been the least hope of it doing any good; but there was no sign of laryngeal obstruction. Tetanic spasms and twitchings had continued to the last moment of life.

Assisted by Mr. Wagstaffe, I made a partial examination of the body twenty hours after death. It was my intention to have taken some of the muscles which had been principally affected, and experiment with the juice of these muscles, and with some of the blood, upon animals; but I was only permitted to examine the body on the express promise to take nothing away. The wound had united perfectly; the peritoneal edges had adhered accurately; the divided edges of parietal peritoneum adhered so closely to the peritoneal investment of the peduncle that I could only separate them by dissection. The peduncle had been cleanly divided a full inch from the uterus. The opposite ovary was healthy. There was a slight effusion of lymph on a piece of omentum and a fold of intestine lying near the wound, but no other sign of peritonitis. About a pint of dark fluid blood, quite free from coagulum, had gravitated in the cavity of the pelvis; the only blood coagulum found was adherent to a spot about an inch above the upper end of the wound, where tapping had been performed some weeks before the operation. Here there was about a drachm of dark adherent coagulum, and the recti seemed to have been torn across transversely for upwards of an inch, probably by the violent tetanic

spasms which arched the body backwards. Whether this was the origin of the blood in the pelvis, or whether it had passed from some vein opened at the post-mortem examination, I cannot say. I opened the left iliac vein purposely, and dark fluid blood, precisely resembling that in the pelvis, flowed from it. No further examination was permitted.

The question will naturally arise, why, as the first patient upon whom I tried woorara had recovered, I did not use it earlier in this case? The answer is, that at that time I was not assured of the recovery of the first patient, and that I doubted whether the improvement which had taken place had been at all dependent on the influence of the woorara. The second case was one of a far more acute character. M. Manec, as well as M. Vella, had been unsuccessful in their trials of woorara in acute tetanus, and the only case of acute traumatic tetanus I had ever seen recover had been treated by asafœtida; and this patient, like mine, was hysterical.

As it might appear from the fact of two cases of tetanus occurring in the practice of one surgeon, after the same operation, that something peculiar to his mode of performing that operation had been a cause of the disease, I am able to offer a conclusive reply to that supposition by the remarkable circumstance that, although I had not seen a case of tetanus for ten years, a third case occurred in my own practice directly after these two, although in the third case the operation was one of a totally different nature—namely, a plastic operation on the perineum performed for the relief of prolapsus uteri, aggravated in its consequences by vaginal cystocele and rectocele. Those who are interested in this subject may find the details of the case in a paper on the treatment of tetanus by woorara, which was read before the Royal Medical and Chirurgical Society in November 1859, and a full abstract of which was published in the 'Proceedings' of the Society.

CASE XIII.

Large Ovarian Cyst; Eight Tappings; Patient only seventeen; Ovariotomy; Recovery.

ON October 18, 1859, I met Dr. Rigby and Mr. Peirce, of Notting Hill, in consultation upon a single lady, only seventeen years of age, who had been tapped eight times during the previous two years. She had been previously under the care of a physician who considered the disease to be ascites, but Mr. Peirce had recognised its true nature. It was arranged that this gentleman should tap in our presence, which was done, and a careful examination was made after the largest cyst had been emptied. It was then found that there were several groups of smaller cysts in different parts of the abdomen, and looking to the frequency with which tapping had become necessary, and the condition of the patient, who was much emaciated, it was agreed to recommend ovariotomy. The patient and her friends being anxious to have it done after the danger had been fairly put before them, it was arranged after a short time that I should perform the operation. Some delay was caused by a continuance of very foggy weather, but it was performed on November 19.

Dr. Priestley having administered chloroform, and Messrs. Curling and Peirce, Dr. Meadows and Dr. Sanderson, being present and kindly assisting me, I removed the cyst and its contents by an incision only four inches long, opening the cyst to the same extent, and breaking down the inner cysts, withdrawing the whole as they were emptied. Moderately extensive parietal adhesions had been previously broken down; and a portion of omentum was separated, in which were two vessels which required the ligature. The peduncle was secured by strong twine, and, with the omental ligatures, was kept outside the wound, which was united by hare-lip pins carried through the peritoneum on both sides, and by superficial sutures. The cyst and contents weighed thirty-eight pounds.

The after-treatment of this case was conducted with great ability and care by Mr. Peirce; and it is only necessary to add that rapid recovery followed, without one alarming symptom. An occasional opiate was given by the rectum, and hot linseed

poultices were used for a few days all over the abdomen. The young lady was soon in vigorous health, and when seen by Dr. Rigby, shortly before his death, he was much struck by the contrast between the blooming girl before him, and the pale emaciated being who was the subject of our consultation only a few months before. She has remained in excellent health.

CASE XIV.

Ovarian Tumour; Tapped Nine Times; Ovariotomy; Tumour fifty-three Pounds; Death after twenty-three hours.

J. B., AGED twenty-seven, single, lady's-maid, was first admitted July 15, 1859, under my care in the Samaritan Hospital.

The following is the history of the case obtained soon after her admission:—About four years ago, after a severe fall, she first felt pain in the lower part of the left side of the abdomen. This lasted for about three months, and she was treated in Edinburgh under Professor Simpson. She was kept in bed six weeks, and brought under the influence of mercury. At the end of three months the pain ceased, but a tumour about the size of an egg remained, and never afterwards disappeared. But it did not increase for about eighteen months, during which time she travelled abroad. About two years ago the enlargement began to increase, and she was admitted into the Hospital for Women, under Dr. Protheroe Smith, in June 1858, while suffering from acute peritonitis. She was relieved, and taken in a second time in August 1858, with an attack of circumscribed peritonitis on the right side. The abdomen at this time was forty-six inches in circumference. After the cessation of inflammation, she was tapped, and twenty-four pounds of fluid were removed. She was again admitted in January 1859, and twenty-two pounds of fluid were removed by tapping. In April 1859, she was readmitted, measuring forty-nine inches, and forty pounds of fluid were removed. After tapping it was observed that a ‘large solid mass occupied the left hypochondriac and hypogastric regions.’ This appears to have formed in a great measure since the first tapping. In June 1859, she was tapped for the fourth time, thirty-seven

pounds of fluid having been removed. On each occasion a few leeches and general treatment had preceded tapping, on account of symptoms of circumscribed peritonitis. For these particulars I am indebted to Dr. Protheroe Smith.

On admission to the Samaritan Hospital, July 15, 1859, she was much emaciated, the pulse was very feeble, and she suffered very much from distention of the abdomen, which was fifty-one inches in circumference at the umbilicus and twenty-five inches from symphysis pubis to ensiform cartilage. On the 17th, I tapped two cysts, and removed twenty-two pounds eight ounces from one, and ten pounds six ounces from the other. The large solid mass on the left side, before described, was then seen very distinctly, and she said it had grown very fast since the last tapping. The accompanying copy of a photograph



taken by Dr. Wright after the tapping gives a very good idea of the size and form of the abdomen after the removal of this large quantity of fluid. She was most anxious to have the tumour removed, but she was in so depressed a condition that she was sent to the country for a time, and readmitted August 22. On the 25th I tapped, and removed twenty-nine pounds of fluid, and she was put upon quinine and generous diet. She again left the hospital, but was in for the third time from the

3rd to 26th of October, having been tapped on the 15th, and thirty-six pounds of fluid removed.

She was admitted for the last time on November 16, suffering extremely from distention, but still in better general health than she had been on any former admission. On the 18th I tapped the two cysts which I had tapped in July, and removed forty-one pounds ten ounces of fluid. She was then put upon a very nourishing diet, and as, notwithstanding rapid filling of the cysts, she seemed in as good a state of health as could reasonably be hoped for, and she was most anxious to be relieved of her sufferings, the propriety of acceding to her request was most carefully considered in two full consultations of the medical staff, and it was agreed that I should operate on the 6th inst., although more than one of my colleagues thought the prospect of success so small that it was unwise to operate. She was then about the same size as when tapped three weeks before. I operated on December 6, 1859.

Dr. Priestley administered chloroform. The hospital staff were present, Dr. Sim of Naples, and Dr. Westmacott. I commenced by making an incision over the linea alba, midway between umbilicus and symphysis pubis, just large enough to admit one hand, intending to do no more if the adhesions proved to be very firm; but as I found the greater portion of the surface of the cysts nearly free, and some adhesions at the anterior border of the solid portion yielded readily before the hand, I determined to proceed, and emptied both cysts through a very large trocar. They were then drawn forward, and the wound enlarged up to the umbilicus. Some firm adhesions of the omentum to the upper and back part of the solid portion were then separated, and two or three small cysts burst during this part of the operation. The whole of the cysts and tumour were then drawn out of the abdominal cavity. The mass was attached to the left side of the uterus by a large broad peduncle, and in addition to this a thick vascular band of adhesion connected the lower part of the solid portion with the abdominal wall behind the sigmoid flexure of the colon. This band was divided by the écraseur. The peduncle was secured by a clamp, and the tumour removed. Two vessels which were bleeding freely, far back on the abdominal wall, having been opened in separating adhesions, were then secured

by ligature, the pelvis and lumbar fossæ carefully sponged out, and the wound united by deep and superficial sutures of iron wire. A pad of lint and a flannel belt were then put on, and the patient was placed in a warm bed. She remained very low for about an hour, when she rallied and began to complain of pain in the abdomen. Half a drachm of laudanum was thrown into the rectum, and this injection was repeated in an hour, but only twenty minims were then thrown up. Some brandy and soda-water were given, and a little port wine. She was very comfortable in the evening. The pulse about 90. There had been some vomiting, but it was not very troublesome. The skin was warm and moist, and she was in good spirits. She passed a very tolerable night, having two injections of twenty minims of laudanum when pain became troublesome. A moderate quantity of urine had been twice removed by the catheter. She had slept pretty well, and up to 10 A.M. on the day after operation seemed to be going on satisfactorily. She then began to sink rapidly, felt cold and faint, and the pulse became imperceptible, notwithstanding the free use of stimulants both by the mouth and rectum. She died twenty-three hours after operation.

The tumour consisted of two very large cysts, which contained upwards of forty pounds of fluid, and of a semi-solid mass of small cysts, which weighed eleven pounds and a half. The whole removed, therefore, weighed about fifty-three pounds.

The abdomen was examined on the following day. The wound was found to be united on its peritoneal aspect by recent lymph, with the exception of the spots where the peduncle passed below, and the ligatures on the vessels above. One loop of small intestine adhered by soft, recently-effused lymph to the wound for the extent of about an inch. The portion of omentum which had been separated from the cyst was slightly congested. There were between one and two pints of bloody serum in the peritoneal cavity, but not a morsel of clot. There were signs of peritonitis about the broad ligament on the left side, and on the parietes near the wound, and on two or three coils of intestine which lay near it; but there were no marks of general peritonitis. The ligatures did not appear to have set up peritonitis in their track. The uterus was normal. The right ovary was about the size of a large walnut, and nodulated on its surface. The peduncle,

consisting of Fallopian tube and broad and round ligaments, was securely fixed by the clamp outside the wound. I added the following remarks to a report of this case which was published at the time in the 'Medical Times and Gazette':—

'This was one of those desperate cases where a surgeon who looks to his own reputation as an operator whose results are numerically successful—or, less selfishly, to the credit of surgery in general, or of ovariotomy in particular—would certainly refuse to operate. In a case where the probabilities are greatly against success, an operator is not only likely to lose by a comparison with the results of others who only operate in favourable cases—but he may bring discredit on an operation, strengthen the belief in its excessive mortality, and deter other surgeons from recommending it, or patients from submitting to it, in whom the conditions are hopeful. And it becomes a moral question of no small magnitude how far these considerations should prevail against the simple question,—What is my duty to this patient? It appears that if once the surgeon is convinced that he ought not to allow any patient to go on through a life of suffering to an inevitable death, when there is a possibility that an operation may restore that patient to health, it is his duty to cast aside all other considerations, and do his best for the poor creature who has confided in him. Then, of course, come the important practical questions,—Is the disease necessarily fatal? Is an operation necessarily fatal? Is there a moderately fair chance of recovery? Does the patient fully understand the risk? Is suffering so great and life so irksome that she is anxious to be relieved even at so great a risk? All these questions were most anxiously considered in the above case; and, although the result has been unsuccessful, the mother of the patient, and those who knew her best and know what death by the natural progress of ovarian disease is, have a certain melancholy satisfaction in feeling that nothing has been left undone which might have been done, and that some weeks of hopeless lingering suffering have been spared.'

CASE XV.

*Multiple Ovarian Cyst; Two Tappings; Ovariotomy;
Twenty-five pounds removed; Cure.*

E. A., SINGLE, aged twenty-three, had worked as a laundress for six years. Between three and four years ago she first suffered from pain above the umbilicus, especially when employed at hard work. This lasted three weeks, and then disappeared without treatment. Three years ago she first noticed an enlargement in the upper part of the abdomen, more particularly on the right side; and this continued to increase. Unable to follow her occupation as a laundress, she became a dressmaker, and continued at this employment until the end of 1858. Six months before this she noticed diminished excretion of urine; and, at times, hardly passed any. About the same time she suffered very much from pain in the back and loins. This continued up to August 1858—at times being very intense; but afterwards it was not so severe, except just at the catamenial period. The catamenia had been regular, but generally last seven days—being absent three weeks. She was first under homœopaths for six months, without benefit. She then went to the Torquay Infirmary, and remained there eighteen weeks. She was then sent to St. George's Hospital, and remained six weeks under Mr. Caesar Hawkins. She left because her desire to have the tumour removed was not complied with; and she was first admitted to the Samaritan Hospital, under my care, on June 22, 1852. She was at this time as large as a woman far advanced in pregnancy, the whole abdomen being occupied by a large fluctuating tumour. Looking to the history of the case, and the fact that no line of demarcation could be made out between the liver and the upper part of the tumour, it was decided not to consent to her earnest desire to have the tumour removed, until the diagnosis was verified by a preliminary tapping. I accordingly tapped her, and removed eleven pounds of a pale, amber-coloured fluid. The cyst and liver were then found to be distinctly separated, and several groups of smaller cysts could be felt. On this account I determined not to inject iodine. She was relieved by the tapping, but suffered a good deal of pain—apparently from rolling of the cyst as she turned. This passed off, and she

returned into the country on July 13, with directions to come to town when the cyst filled again.

She was readmitted on November 8, and ovariotomy was again postponed on account of an attack of circumscribed peritonitis. A good deal of lymph seemed to have been effused, for there was a very loud friction-sound, and crepitus or leather-creaking was very distinctly perceptible beneath the right false ribs. She was tapped the second time on November 18; was relieved by the tapping, and went to the country on the 30th.

Her general health improved, and she came up for the third time, beginning to suffer much pain from distention, having filled fast, and was admitted on January 4, 1860. It was decided to perform ovariotomy at once; but several accidental circumstances—foggy days, appearance of catamenia, &c.—led to delay. The circumference at umbilicus was forty-one inches; distance between ensiform cartilage and symphysis pubis, eighteen inches; the umbilicus being exactly midway.

I performed the operation on January 24. Mr. Bowman and Mr. Leggatt were present, in addition to my colleagues and other friends. Dr. Priestley administered chloroform. I made an incision of about five inches along the linea alba. The upper end was about two inches below the umbilicus, the lower end about the same distance above the symphysis pubis. Having exposed the surface of the cyst, and separated a few slight adhesions to a piece of omentum, I passed my hand rapidly over the surface of the tumour, and found it was quite free from adhesion. A full-sized trocar was then introduced, and a large cyst drawn outwards as it was emptied. Several other cysts were then successively tapped, emptied, and drawn out; and, lastly, some semi-solid rounded growths of small cysts aggregated together were drawn outwards one after another, until the whole tumour was thus withdrawn from the peritoneal cavity. A broad peduncle was secured by a clamp, the tumour cut away, and the wound united by hare-lip pins passed through the peritoneum. It then appeared that the clamp lying across the wound exerted a good deal of traction on the uterus. To remedy this, I pierced the peduncle close behind the clamp and tied it with strong twine in three portions, removing the clamp, allowing the peduncle to sink until the ligature was on a level with the peritoneal edge of the wound, and fixing it there by transfixing

it with a hare-lip pin, which also passed through both sides of the wound. After the removal of the clamp a large artery bled on the cut surface of the peduncle, and was tied. The cutaneous edges of the wound were closed by wire sutures. The whole operation, including the administration of chloroform, scarcely exceeded half an hour. The fluid removed weighed twenty-two pounds ; the cysts three pounds ; total, twenty-five pounds.

The after-treatment consisted at first of hot linseed poultices all over the abdomen, occasional injections of twenty minims of laudanum in a little water, and the use of the catheter. Peritonitis seemed threatening about twenty hours after operation, as she was hot and thirsty, complained of some pain, and the pulse got up to 120, and increased to 136 ; but all this subsided without further treatment than very hot poultices, and there was from this time a steady and rapid recovery. She said that she had suffered far more before the operation from the distention than she had done since. Champagne was given on the third day, as well as beef-tea, brandy, and soda-water. Two hare-lip pins were removed, and nearly the whole of the slough of the peduncle. On the fourth day the two remaining pins were removed, and the ligatures came away spontaneously. The pulse had fallen to 96. On the sixth day the bowels acted naturally. The wound having united perfectly, except where the peduncle had passed, two superficial sutures were removed, and the others two days afterwards. She left her bed on February 7, exactly a fortnight after operation. The wound was then completely healed, and she was looking quite well. She remained a fortnight longer to recover strength for the long railway journey to Torquay, walking up and down stairs, sitting up to needlework, &c., and left in excellent health and spirits on the 22nd inst.—just four weeks after operation. She has since acted as maid to a relation of Mr. Leggatt's, where she is now in robust health. M. Nélaton saw her in 1862, with several others who had recovered after ovariotomy, and was much struck by her bright, cheerful, healthy aspect.

It will be observed that no medicine whatever was given by the mouth in this case. A few small opiate enemata, only used when there was pain, constituted the entire treatment, as far as drugs were concerned. Had a few homœopathic globules been given the case might have been cited as a great triumph of

homœopathic treatment after a surgical operation. As it stands, it is in itself a sufficient answer to those who decry ovariotomy as an unjustifiable operation. A young woman, suffering hopelessly from an incurable disease, under which she must have sunk before very long, is not only relieved from present suffering, but restored in a short time to good health; and, so far as can be judged from other cases, likely to continue well, and capable of bearing children. Restoration to health without mutilation or deformity is the highest aim of the surgeon, and that aim is attained by ovariotomy.

CASE XVI.

Multiple Cyst ; Twice Tapped ; Pelvic Adhesions ; Ovariotomy ; Septicæmia ; Death in thirty hours.

ON January 31, 1860, I was consulted by a married lady from Manchester, aged twenty-six, the subject of ovarian disease of about three years' standing. Dr. Whitehead had tapped her in March and August 1859, removing at the first time twenty-five, and at the second fifteen pounds of fluid. A number of small cysts had grown rapidly between the first and second tappings. When I saw her she measured forty-one inches in circumference at the umbilicus, and nineteen inches from ensiform cartilage to symphysis pubis. She had been in pretty good health until the last six weeks, but had suffered much since from the distention, pain, and want of sleep. A portion of the tumour could be felt in the pelvis, between the rectum and uterus, pushing the uterus upwards and forwards; but, as the uterus was movable, I hoped there were no pelvic adhesions of consequence, and, seeing no other resource open to the patient, advised ovariotomy.

I performed the operation on February 6. Dr. Priestley administered chloroform. Dr. Markham, Mr. W. Adams, and Mr. Price were present. The operation was precisely similar to that performed in cases just described, the cyst having been emptied and drawn through a small incision. A group of smaller cysts moulded to the pelvic cavity were then also withdrawn through the wound, but the uterus followed the cysts closely, the tumour

and uterus being connected together without any intervening peduncle. The Fallopian tube was much enlarged, elongated, and expanded over the growth, and adhering to it. I commenced the separation by the knife, dividing the Fallopian tube and part of the broad ligament, and secured some large vessels by ligature. The attachment lower down, towards the cervix and side of vagina, was looser. Here I transfixed it, and tied in three portions, after securing it temporarily by a clamp. I found that the tissues included in the ligature could not be brought outside the wound without exerting a dangerous degree of traction on the uterus. Accordingly, after the wound had been united by hare-lip pins, I was obliged to be satisfied with bringing the ligature as near the peritoneal edges of the wound as I could, and leave sufficient opening for the escape of the decomposing stump.

She recovered well from the operation, and had some quiet sleep in the evening; the pulse, however, was 135, and rather feeble. Flatulence was rather troublesome, but there was no sickness. She seemed inclined to perspire, and said she was 'comfortably warm.' She passed a good night, frequently dozing, and perspiring a little; but in the morning the pulse was up to 148. She had no pain, but flatulence was troublesome, and she said she felt 'tired.' During the forenoon the pulse became feeble, rose to 160, and she continued to sink all day, although she took stimulants and beef-tea freely, and was not sick. No urine was secreted after 3 p.m. The intestines became enormously distended by gas, and she died at 9 p.m., thirty hours after operation. No post-mortem examination was allowed. To this report of this case, published at the time, I added the following remarks:—

'I am disposed to attribute the death in this case partly to imperfect recovery from the shock of the operation and the consequent exhaustion, and partly to the absorption of some morbid product of the decomposing cyst. When a peduncle is secured outside the wound on the surface of the abdomen, the portion of cyst or peduncle strangulated by the ligature becomes quite putrid in a very few hours, and a black offensive discharge is generally very copious. The same thing must occur when the stump is within the peritoneal cavity, and the effects might be expected to resemble those produced by the injection

of putrid substances into the veins. It is known that Dr. Clay thinks it better to leave the stump within the abdomen, and acts up to his belief; but, with two exceptions, I have always kept it outside—this case, and one in which the patient recovered.'

CASE XVII.

Ovarian Cyst; Tapped Five Times; Ovariotomy; Death from Intestinal Obstruction forty-six hours after.

S. M., AGED thirty-three, married, came from Tavistock to consult me, and was admitted on February 14, 1860, to the Samaritan Hospital.

History.—She was married ten years ago, and has had four children. The youngest child is three years old. She was quite well until after the birth of this child, but did not diminish in size afterwards, as she had done after former confinements, but rather increased in size, though very slowly, until the end of 1858, when increase became more rapid. In March 1859, she was first tapped by Mr. Pearse, of Tavistock, between five and six gallons of fluid being evacuated. A fortnight before admission she was tapped for the fourth time, between six and seven gallons then being removed. There had been about the same quantity in the two intermediate tappings.

State on Admission.—An emaciated woman, pale, but cheerful, though suffering from impeded respiration, frequent nausea, and occasional vomiting; pulse rapid and feeble; integuments of abdomen very oedematous; circumference of abdomen forty-six inches; measurement from symphysis pubis to ensiform cartilage, twenty-six inches; umbilicus exactly midway. Catamenia present. On February 8, the catamenia having ceased, a vaginal examination was made, and the anterior wall of the vagina felt to be much depressed by an elastic tumour pressing downwards between the uterus and the bladder. This tumour seemed to be so fixed that it was decided to empty the principal cyst, and examine afterwards as to pelvic adhesions, before deciding upon the performance of ovariotomy.

February 11.—I tapped her and removed thirty-four pounds of thick fluid, sp. gr. 1010, so highly albuminous that

it became nearly solid on the addition of nitric acid. Five groups or movable collections of smaller cysts could then be felt around the emptied cyst. The uterus was felt to be movable, but the tumour between the bladder and uterus could not be entirely pushed upwards.

16th.—She did not suffer from the tapping. The uterine sound showed the cavity of the uterus to be three and a half inches long.

A little bloody discharge from the uterus followed the use of the sound for a few days. This subsided; and then, as she was filling very rapidly, and most anxious for the operation, it was decided to remove the tumour. On the day before operation, only a fortnight after tapping, she was nearly as large as before, the girth being forty-three and a half inches on the 26th.

Feb. 27th.—Operation at 3 P.M.—Chloroform having been administered, I made an incision seven inches long, from an inch below the umbilicus downwards towards the symphysis pubis, and came at once upon a very thin part of the cyst and a group of small cysts developed in the wall of the principal cyst. This large cyst was then emptied and laid open throughout the whole extent of the wound, but so close was the adhesion between the cyst and the parietes, that it was difficult to make out the line of division between them. When it was made out above and separation partly effected by the hand, adhesion was so firm in some places that it became necessary to separate the cyst by careful dissection. This having been done, some extensive attachments of omentum were separated, the cyst was withdrawn, and then each group of smaller cysts were successively drawn out. A moderately long peduncle on the left side was temporarily secured by a clamp, the opposite ovary examined, the peritoneum carefully cleansed, a portion of omentum tied and cut away, and the wound then closed by hare-lip pins and superficial wire sutures. The tied piece of omentum was secured at the upper angle of the wound, the peduncle about the middle, as it lay there with less traction than at the lower angle. The clamp was removed after transfixing the peduncle and tying it with whipcord close behind the clamp. One hare-lip pin, by transfixing both sides of the wound and the peduncle, effectually prevented the stump from slipping into the abdomen. From the commencement of the inhalation

of chloroform till the patient was in bed, three-quarters of an hour elapsed. The weight of fluid removed was 21 lbs. 12 oz.—of the group of smaller cysts removed entire, 9 lbs. 12 oz.; total, 31 lbs. 8 oz.

Progress after Operation.—The patient recovered extremely well from the shock. At six o'clock there was a little pain, which was relieved by an opiate enema. Hot linseed poultices were applied to the abdomen. At eight, nearly a pint of urine was removed by the catheter; at eleven she was doing extremely well, was quite easy, in a gentle perspiration; pulse, 106.

28th.—Has been sick at times since 1 A.M. Has had another enema on account of slight pain. Has taken brandy and soda-water, but the only thing that remains on the stomach is iced-water. The nurse reported that the last poultice had been a little tinged with blood. I accordingly examined the wound, and found that the tied portion of omentum was quite dead, and a further small piece had protruded behind. From the surface of this a few drachms of blood had oozed. I therefore removed the dead portion, and tied the newly-protruded bleeding part at the edge of the skin. I also removed a large portion of the stump of the pedicle. The pulse was then 110, and the patient rather faint. Some champagne was given. In the afternoon she seemed much better, but the vomiting was still troublesome, and she was very thirsty, craving for cold water, which she was allowed freely. There was no pain, and she had had no opiate since the morning. At 11 P.M. the pulse had risen to 130, and she was becoming rather exhausted by the sickness. There was much greenish mucus in the vomited fluid, which still smelt strongly of chloroform; and it was hoped that the sickness would cease when all the chloroform was eliminated. Beef-tea and brandy were thrown into the rectum every three hours.

29th.—Passed a very restless night; frequently vomiting; the pulse was nearly imperceptible; the stomach and upper part of abdomen very tympanitic. Thinking it possible that the peduncle might be causing intestinal obstruction, I removed the hare-lip pin, which transfixes it; but, as it was uncertain what share the chloroform and the omental ligature had in keeping up the vomiting, I did not open the wound. The vomiting of green mucus had ceased, and now all that came up was the water she

drank, with clear yellowish bile. An enema of tincture of asafoetida with beef-tea was given, but she continued to sink, and died forty-six hours after the operation.

The body was examined twenty hours after death by Dr. Aitken, to whom I am indebted for the following report:—

'The anterior wall of the abdomen was very flaccid from previous excessive distension by the ovarian tumour. The recti muscles were also greatly hypertrophied, and their fibrous sheaths thickened, probably from the increase of function thrown upon them in supporting the large ovarian cyst. Incisions were made from the ensiform cartilage towards the anterior spines of each ilium, so as to reflect the anterior wall of the abdomen in a triangular flap downwards over the thighs. The relation of the peritoneal aspect of the wound to the intestines, omentum, and parts concerned in the operation were thus very easily seen. The incision made in the operation ceased about midway between the umbilicus and symphysis pubis, not coming so low down as usual. The upper third of the wound gave passage to a portion of omentum which had required the application of a ligature. The portion of gut to which it was attached was in close apposition to the inner aspect of the wound. The intestine, however, was not constricted; and the slight irritation at this point was entirely limited to the portion of omentum passing through the wound. The line of incision which separated the cyst from its peduncle was secured by whip-cord ligatures, and the tied portion of peduncle was brought out through the middle of the wound. The tumour seemed to have been fixed closely to the posterior aspect of the left side of the false pelvis, near the middle line, and at a considerable distance from the fundus of the uterus. From the uterus to the ligature of the peduncle, the distance measured an inch and a half; but the condensed tissue which composed the peduncle attached to the posterior wall of the false pelvis was almost sessile, having the left common iliac vein to its inner aspect. The ligatures securing this extensive incision were thus fixed near the posterior aspect of the false pelvis, a little to the left of the middle line; and towards this point the elongated peduncle from the fundus of the uterus was drawn, and secured by the one common ligature. Thus the body of the uterus came to be drawn obliquely upwards out of the cavity of the true pelvis, and the common

ligatures were brought out at the middle of the wound, instead of at its lower angle near the symphysis pubis, as has usually been the case. These arrangements and connexions of parts caused the united incision through the abdominal wall to dip deeply into the cavity of the abdomen, and that portion through which the ligatured peduncle issued came to be nearer the posterior aspect of the pelvis. A space was thus left between the elongated peduncle from the fundus of the uterus and the abdominal wall. The space was closed at the upper angle where the ligature emerged at the middle of the parietal wound. In the space so formed a portion of the lesser intestine near the lower portion of the jejunum had become constricted. The mesentery of the small intestine resting on the ligature, the whole extent of ilium had passed through this space towards the right side of the abdomen, till the constriction became decided at the lower portion of the jejunum. A complete liberation of the ligatures holding the peduncle in the centre of the parietal wound at once set free the constricted portion of the gut, showing it dilated and inflamed on either side of the constricted portion. Extensive inflammatory action had glued the convolutions of intestine to each other immediately above the constricted portion, and a considerable portion of fluid effusion filled the cavity of the true pelvis. There was no appearance of hemorrhage having taken place. There was evidence on the parietal peritoneum of extensive adhesions to the cyst having been forcibly ruptured, and round these points considerable vascular excitement was manifest; and lymph was already in abundance commencing the healing process. No inflammatory action appeared to extend from these points, nor from the wound. Throughout all points where it was brought together, union by the first intention was rapidly proceeding. The hare-lip pins which had transfixed the peritoneum were completely concealed from view until the folds on each side were forcibly separated.'

This very instructive case shows that, although the danger of peritonitis, and of septicaemia or of gangrene of the lung from absorption of the fetid products of the decomposing slough of the peduncle, may be avoided by fixing the peduncle outside the abdominal cavity, yet another source of danger attends this practice. Strangulation of intestine might also be caused by a

loose ligature, though not so readily as by a tight peduncle. Bands of lymph have caused fatal strangulation some weeks after ovariotomy in more than one recorded case; but I do not remember any case in which it has been recognised so soon after operation as in this case. I do not believe such an accident is likely to occur at all often enough to outweigh the many advantages of keeping the stump of the peduncle out of the peritoneal cavity; but the knowledge that it has happened will be an additional argument in favour of the use of the écraseur, or of acupressure, in appropriate cases, and also teach us to be on our guard and liberate the peduncle effectually when symptoms of strangulated intestine supervene. Having suspected the obstruction in this case, and removed the hare-lip pin which fixed the peduncle in the hope of giving relief, I regretted very much that I had not opened up the wound and made sure that the strangulated intestine was effectually liberated.

CASE XVIII.

Multiple Ovarian Cyst; Once Tapped; Extensive Adhesions; Recovery.

ON May 26, 1860, I was requested to meet Dr. Ramskill and Dr. Buss, of Shoreditch, to decide upon the treatment of a patient, aged forty-one, the subject of a large multilocular ovarian cyst of two years' growth. She had not been tapped, and it was agreed that Dr. Buss should tap her in our presence. Very little fluid was obtained at first, but by passing a uterine sound through the canula, and breaking down the walls of many inner cysts, a pailful of thick fluid was evacuated. She recovered well from the tapping, but filled again rapidly, and it was decided at a second consultation with the same gentlemen, held on July 13, to perform ovariotomy, as she was already as large as before the tapping.

On July 17 I performed the operation. Dr. Echeverria administered chloroform. Dr. Ramskill, Dr. Routh, Dr. Drage of Hatfield, Mr. Clay of Birmingham, and Mr. Thompson of

Westerham, were present. The parietal adhesions were very extensive, requiring separation with the hand from almost the whole of the abdominal walls. A portion of omentum, also, had to be separated. A very little fluid passed through a very large trocar, so that I opened the cyst to the full extent of the wound, introduced my hand, and broke down the inner cysts, while Dr. Routh and Mr. Clay withdrew them as they were being emptied. In this way the whole tumour was removed through an incision only just large enough to admit my hand, and little, if any, of the contents of the cyst entered the peritoneal cavity. There was some oozing of blood from the torn adhesions, and it was necessary to sponge out the pelvic cavity, but no ligatures were used. The pedicle was secured by twine ligature in three portions, and kept outside the wound, which was closed in the mode I then adopted by hare-lip pins and superficial sutures. The empty cysts weighed four pounds, the fluid collected thirteen pounds, and some eight or ten pints were lost.

The after-treatment was ably conducted by Dr. Ramskill and Dr. Buss. No medicine was given by the mouth. The abdomen was covered by hot linseed poultices, and when there was pain small opiate enemas were administered; but she only required three of these. Indeed, recovery was uninterrupted. As Dr. Ramskill said, ‘She had not even a dry tongue, a quickened pulse, any pain, or any heat of skin.’ The bowels did not act till the ninth day. On the tenth day the ligature separated from the peduncle, and on August 11, twenty-four days after the operation, the patient left town for Brighton by cab and railway, having been walking about the room for nearly a week before. She has since enjoyed excellent health.

CASE XIX.

Multiple Cyst; Twice Tapped; Cyst Inflammation; Ovariotomy; Recovery.

ON December 8, 1859, I saw a single lady, aged thirty-six, in consultation with Dr. Rigby, and removed ten quarts of fluid from an ovarian cyst. She had not been tapped before. The growth was of about three years' standing. She suffered

nothing from the tapping, gained flesh afterwards, but began to fill soon.

I saw her again on May 9, 1860. She then appeared about as large as before the first tapping. The girth was $39\frac{1}{2}$ inches. It was arranged that I should tap again, and inject iodine if no secondary cysts were found. Accordingly, on May 21, I removed nine quarts of fluid; but, finding that large groups of secondary cysts had formed on the left side since the first tapping; no iodine was injected. She remained rather feeble, with occasional nausea and faintness, for some days, but left town ten days after the tapping. She did not recover strength, complained of much headache at times, and lost flesh, while the size of the abdomen increased rapidly.

On July 13 consultations were held with Dr. Rigby, Dr. Tyler Smith, and Dr. Growse, of Brentwood. The result was that she determined to submit to ovariotomy, and I performed the operation at Brentwood on July 28. The growth had increased so rapidly, she had become so thin and pale, had been so much distressed by the abdominal distention, and the pulse was so feeble, that at the last moment I consulted with Dr. Ramskill and Dr. Growse as to the propriety of operating; but, fortified by their opinion that it was the only means of escape from speedy death, we determined to proceed, Dr. Ramskill carefully watching the action of chloroform, Dr. Growse and Mr. Quennell, of Brentwood, and Mr. Mason assisting me. With the exception of one small band of adhesion at the site of the previous tappings, the cyst was quite unattached. This band readily yielded to the hand. The principal cyst was tapped, emptied, and partly withdrawn. But large groups of inner cysts prevented the escape of the whole tumour through the small incision. I therefore passed my hand into the large cyst, and by breaking down the smaller ones and squeezing out their contents, the whole tumour easily passed through an incision only just large enough to admit my hand. Large flakes of lymph hung from the lining membrane of some of the larger cysts, to which they were very loosely attached. Dr. Growse and Mr. Quennell were so careful in drawing out the cyst as it was emptied, and protecting the edges of the wound by hot flannels, that not a drop of the contents of the cyst entered the peritoneal cavity. There was rather free bleeding from the

broken-down adhesion, but it subsided spontaneously. The peduncle was long, but very broad, extending along the brim of the pelvis on the left side. It was secured by transfixing and by a twine ligature. The wound was closed as in the last case, and the same plan of after-treatment agreed upon. It was conducted most ably and attentively by Dr. Growse, and I have little more to record than gradual recovery. For three days she remained very weak, the pulse ranging from 104 to 130, the skin inclined to be hot, and there was a good deal of flatulence, with occasional vomiting. But there was very little pain. She slept very comfortably after an occasional opiate enema, and all anxiety was over by the fourth day, when the ligature on the peduncle had separated, and the deep sutures were removed. The superficial sutures were left till August 4. I continued to receive most favourable accounts of her progress, and convalescence was soon established. Her sister wrote to me on August 21, twenty-four days after the operation, saying—‘My sister walked into the front room yesterday, where we dined, and spent the day. She is now sitting in an easy chair, *at work*.’ I have heard from her every year since, on the anniversary of the operation, every letter recording the most perfect health.

CASE XX.

Large Cyst; Fifty-six pints of fluid removed by Tapping; Ovariotomy; Extensive Adhesions; Recovery.

ON February 29, 1860, I was requested by Mr. McCrea, of Islington, to see a patient residing in Barnsbury Park. She was fifty-three years of age, and was suffering from a very large ovarian cyst. The girth at the umbilicus was fifty-one inches, the measurement from symphysis pubis to ensiform cartilage thirty-one inches. She had been married twenty-six years, had had one child twenty-four years ago, none since, nor any miscarriages. The catamenia had been occasionally profuse, but had ceased three years ago. Her general health had been good until early in 1852, when swelling began low down on the right side, and gradually increased. She had no pain until the abdomen had acquired a considerable size in the spring of 1853, when she

consulted Dr. Ferguson, who advised her to wait as long as possible before being tapped. Increase had been very slow; but of late Mr. McCrea had attended her for some time, owing to increasing difficulty in getting about from slowly increasing size of the abdomen. She had lost flesh, but had a good colour and cheerful aspect. Taking all the circumstances of the case into consideration, we determined to advise still further delay; not to interfere until the pressure of the fluid began to exercise some really injurious influence, and then to meet again.

On May 11, the fluid having increased, and as she was becoming much distressed by its pressure, it was agreed, in consultation with Mr. McCrea, that I should tap her. This was done, and fifty-six pints of clear viscid fluid removed. After tapping, some groups of smaller cysts were felt in the wall of the principal cyst; the largest being to the right side between the umbilicus and false ribs, and adhering there. This we concluded to be sufficient indication against the injection of iodine. She was much relieved by the tapping, and remained in fair health during the summer, although the sac gradually refilled, and the smaller cysts grew faster in proportion than the large one filled. Towards the end of September she was nearly as large as before tapping, and another consultation was held, in which Mr. McCrea and I fully considered the arguments for and against ovariotomy—the age of the patient, and the existence of adhesions on the one hand, and the hopelessness of mere tapping or iodine injection on the other—and after fairly putting the risk before the patient and her husband, it was determined that I should perform the operation. Accordingly, on October 16, Dr. Cribb having administered chloroform, and Dr. Althaus, Mr. McCrea, and Dr. Routh kindly assisting me, I removed the cyst. Although the adhesions to the parietes were very extensive, and much firmer than in any case I had met with before where I had done more than make an exploratory incision, I was able to remove the whole through an incision only four inches long, midway between the umbilicus and symphysis pubis. A small portion of adhering omentum was detached; a long peduncle from the right side of the uterus easily secured; the left ovary examined and found healthy; the peritoneal cavity cleansed carefully from a little blood and viscid fluid from a cyst

which had escaped into it; and the wound united by hare-lip pins passed through the whole thickness of the abdominal parietes, including the peritoneum, and by superficial wire sutures. As soon as the wound was closed, the clamp (which had been used to secure the peduncle temporarily) was removed, after the application of a ligature below it.

The progress after operation was very satisfactory, Mr. McCrea and Dr. Cribb carrying on the plan of treatment we agreed upon most assiduously. There was never much pain, though sickness was troublesome. Occasional enemata, containing twenty drops of laudanum, were given, and warm linseed poultices kept applied to the abdomen. The pulse varied from 96 to 112, and for some days there was considerable flatulent distention of the intestines. I removed the hare-lip pins on the 19th, when the wound was found to be accurately united. On the 21st the bowels acted freely, after an enema of warm water. On the 22nd I removed all the superficial sutures. The ligatures were still firm on the peduncle, and did not separate until the fourteenth day, namely, October 30. When I saw her on November 2, she was eating and sleeping well and walking about the room. I saw her again on the 23rd, when she was quite well, and in excellent spirits, although she had been up the greater part of the night with her husband, who had been very ill. The cicatrix was quite firm, the appetite good, the bowels acted regularly, the urine passed naturally, and she was beginning to gain flesh. On the 26th she called, with Mr. McCrea, upon Dr. Ferguson, who was much gratified at the success.

The interesting features in this case are the age of the patient, the large size of the cyst, and the extreme firmness of the adhesions, which rendered the rapidity and completeness of the recovery really remarkable even to those who have been surprised at similar recoveries before under careful nursing and simple treatment.

The cyst was shown on the evening of the day it was removed at the meeting of the Pathological Society. It consisted of one very large cyst, which had contained between forty and fifty pints of fluid, and of a number of groups of smaller cysts, growing in and from the walls of the principal cyst, and weighing about eight pounds. On the wall of the largest cyst were

several large plates of a semi-transparent structure, fully a quarter of an inch in thickness, having all the characters of cartilage to the naked eye and on section, but no microscopic examination was made. This patient has enjoyed excellent health since her recovery from the operation.

CASE XXI.

Compound Ovarian Cyst ; Twice Tapped ; Ovariotomy ; Recovery.

E. G., AGED fifty-four, married, the mother of ten children, was first admitted under me into the Samaritan Hospital, in October 1859, having been sent to me as a case suitable for ovariotomy by Mr. Fuller, of St. John's Wood. The abdomen was occupied by a large multilocular ovarian cyst, of only fourteen months' growth. She was not much affected in general health by the tumour, but had recently begun to suffer from severe dyspnœa and repeated vomiting, from the increasing abdominal distention. On October 18, she was tapped, and eleven pounds of viscid albuminous fluid were removed from a central cyst, surrounded by other adhering secondary cysts. She did not suffer, and went home, but the cyst soon refilled.

She was readmitted and tapped a second time on December 1, having preferred the palliative to the radical treatment, after the risk of the latter had been fairly put before her.

After her return home she began to fill rapidly, and to suffer from dyspepsia, &c., so that she became anxious to have the tumour removed, and was readmitted for the purpose on January 17, 1861. On the 21st, the circumference of the abdomen at the umbilical level was 40 inches, the distance from symphysis pubis to ensiform cartilage $18\frac{1}{2}$ inches.

The operation was performed on the 22nd. Dr. Anstie administered chloroform. An incision large enough to admit the hand was first made down the linea alba, commencing an inch below the umbilicus, and exposing the cyst. The whole of the anterior wall of the cyst was closely adherent to the parietes, but the adhesions were easily separated by the hand. The largest cyst was then emptied, and held forward, but the

remainder could not be removed without enlarging the incision, which was accordingly carried upwards to two inches above the umbilicus. The whole mass was then withdrawn, and a large piece of omentum adhering to the upper part of the tumour was separated. The peduncle was secured temporarily by a clamp, which was removed as soon as the peduncle had been transfixated and tied. The wound was closed by hare-lip pins and superficial sutures. There was considerable oozing of blood from the separated adhesions, and two ligatures were required.

There is little to report as to the progress of the case after operation, as recovery was uninterrupted by a single bad symptom. The only medicine given was 20 drops of laudanum by enema, and this only twice. The bowels acted on the evening of the day of operation, and again on the fifth day, and daily afterwards. The pulse was generally about 90, and only once reached 110. The hare-lip pins were removed forty-eight hours after operation; the superficial sutures were left till the eighth day. The ligature on the peduncle came away on the ninth day with the strangulated stump which had been fixed outside the wound.

On the 6th of February, the patient was sitting up in bed, the wound healed, and she was convalescent. The group of secondary cysts removed weighed more than eight pounds; and about twelve pints of fluid were removed from the larger cysts.

The age of this patient, the extensive adhesions, and the rapid growth of the tumour, are all circumstances which were thought to be unfavourable to ovariotomy; yet she said that she slept better on the night of the operation than she had done for some weeks before, and that she had felt much more ill and suffered more pain after her confinements than she had done after ovariotomy. It was a case in which speedy death must have followed had she been let alone, and in which tapping could have given very little relief, while the injection of iodine was, of course, quite out of the question. She has since remained perfectly well.

CASE XXII.

Multiple Cyst; Iodine injected; Ovariotomy; Recovery.

ON January 25, 1861, I was introduced by Dr. Grimsdale, of Liverpool, to a single lady, twenty-two years of age, the subject of a large multilocular ovarian cyst, of at least four years' growth. Dr. Grimsdale tapped for the first time and injected iodine in January 1858. She recovered fairly after this, and remained for about eighteen months without perceptible increase in size. Then she began to fill rapidly, and when I saw her the abdominal distention was equal to that of pregnancy at the full period. Looking to the fact that a solid mass had been felt at the time of the first tapping after some fifteen pints of fluid had been removed from the principal cyst, and to the physical evidence that a considerable portion of the existing growth was semi-solid, it was clear that nothing but ovariotomy offered a chance of cure, and it was agreed, in consultation with Dr. Grimsdale, to perform the operation as soon as urgent symptoms called for relief.

I performed the operation at Liverpool on March 9, 1861. Mr. Hakes administered chloroform, and I was most kindly and ably assisted by Dr. Grimsdale and Mr. Bickersteth, of Liverpool, and by Dr. Gordon, of Dublin. The tumour was non-adherent, except to a small piece of omentum which was easily detached, and I was able to remove it through an incision only just large enough to admit my hand. A broad peduncle was temporarily fixed by the clamp, and the wound closed by quilled sutures transfixing the peritoneal edges, and by superficial sutures. The peduncle was then transfixed and tied in four portions below the clamp, which was at once removed, and the stump fixed to the lower angle of the wound by a hare-lip pin.

The cyst and contents weighed about sixteen pounds. The principal cyst had its inner coat covered by layers of lymph of different dates. The rest of the growth consisted of the ordinary compound cysts with gelatinous contents, except a lump about the size of the fist, close to the peduncle. This was the thickened and corrugated wall of a cyst (?) that injected by iodine). On microscopic examination it showed nothing but the elements of fibrous tissue.

I left Liverpool the day after the operation, the patient remaining under the care of Dr. Grimsdale, to whom I am deeply indebted for the intelligent care with which he carried on the after-treatment.

The progress of the case, as I heard from him, was most satisfactory for more than a fortnight. An occasional small opiate enema constituted the whole of the medical treatment. The ligatures on the peduncle did not separate until the nineteenth day, the longest time I had known, though much shorter than in many recorded cases, and in a later case of my own (Case XXXIX.).

Three weeks after operation the wound, which some days before began to look unhealthy at the lower part, though apparently well united at the upper part, began to slough, and there was a rigor, with rapid pulse and some abdominal pain. The condition of the wound became worse, and the upper portion reopened and was covered with a firmly adherent slough. The tongue was black and the pulse very rapid. Mr. Bickersteth saw the patient in consultation with Dr. Grimsdale, and they applied strong nitric acid to the wound, and soon afterwards got her some miles inland from Liverpool. Dr. Grimsdale writes, 'Mr. Bickersteth tells me he has had similar trouble with many wounds of late, both in public and private practice.'

The patient rapidly improved after removal, the catamenia appeared, and Dr. Grimsdale wrote to me on May 9, saying, 'Miss —— is well.' I have had annual letters from her since, all describing perfect health.

CASE XXIII.

Pseudo-Colloid Tumour; Ovariotomy; Piece of Omentum removed; Recovery.

ON March 16, 1861, I saw a lady, fifty-five years of age, in consultation with Dr. Bainbridge, of Suffolk Place. She was suffering from the presence of an ovarian tumour in which there was so clearly no large cyst, that we decided at once it would be quite useless to tap, and that ovariotomy was the only re-

source. This patient had had one child, then thirty years old ; no other child, and no miscarriages. The catamenia had always been regular until seven years ago, when they ceased naturally, and she remained well for the next two years. About four or five years ago she became subject to sick-headache, cough, and back-ache, and began to 'get stout ;' but did not think much of it until August 1860, when she became so large that she consulted Dr. Bainbridge, who at once recognised the nature of the disease. The risk of ovariotomy having been fairly put before her, she took time to consider ; but great dyspnœa coming on, with signs of congestion of the left lung, and considerable bronchial irritation, the operation was decided on as a last resource. Accordingly I operated on April 15, 1861. Mr. Cooke, of Charlwood Street, administered chloroform, and Dr. Bainbridge and Dr. Rogers gave me their valuable assistance. There were a few slight parietal adhesions, and it was necessary to separate a very large piece of omentum from the upper part of the tumour. The rest of the operation was completed precisely as in the case last related. The separated portion of omentum appeared so much altered by long adhesion and by the process of separation, that I cut away all that did not appear healthy, and tied two arteries which bled freely. These ligatures were brought out at the upper angle of the wound, and those on the peduncle at the lower.

In parts the tumour was an ordinary multiple cyst; but in other parts it was composed of small areolar spaces filled with a dense gelatinous substance like size or glue.

Recovery after operation was uninterrupted except by the bronchial irritation, which, however, gradually subsided. The deep sutures were removed on the fourth day. The ligature on the pedicle came away on the eleventh day—one omental ligature on the thirteenth, and the other on the fifteenth day. I paid my last visit on May 10. The lady was then quite convalescent, the wound soundly healed, and she left town on the 14th for change of air. She recovered perfectly, and has remained in excellent health.

CASE XXIV.

Large Multiple Cyst; Thrice Tapped; Ovariotomy; Death twenty-four hours after.

A MARRIED woman, forty-two years of age, was sent to me by Dr. Burton, of Brompton, in Kent, and was admitted to the Samaritan Hospital on April 9, 1861. She had been married nineteen years, and had had four children. The youngest was two years and three months old. She first noticed enlargement of the abdomen in April 1860, and attributed it to pregnancy, engaging Dr. Burton to attend her early in November. About the month of November Dr. Burton found that the catamenia had appeared regularly for the preceding fifteen or sixteen months, and on examination he detected at once the nature of the disease. He tapped her in December, and removed seventeen pints of ovarian fluid. He tapped her a second time in February, removing sixteen pints, and again on April 1 (eight days before her admission to the hospital), removing then fourteen pints, but with very slight diminution in the size of the abdomen. On admission she appeared cheerful, but was much emaciated, and suffering a good deal from the effects of the distention on the viscera of the chest and abdomen. But little relief could be gained by a repetition of tapping; iodine injection was out of the question, and ovariotomy the only possible means of avoiding death, which could not be very far distant. There were evidences of extensive parietal adhesions, and the case was looked upon in consultation as an unfavourable one; but others equally unfavourable had recovered, and it was determined to comply with the patient's desire to be relieved, at any risk, of her burden. I performed the operation on April 16. Dr. Althaus administered chloroform. Dr. Burton, Dr. Hamilton Roe, Dr. Symes Thompson, and several other gentlemen were present. The parietal adhesions were both firm and extensive, but I succeeded in breaking them all down, and in removing the entire growth through a small incision. The peduncle and wound were treated precisely as in the cases just related. The tumour was a very large compound cyst, the cyst walls being much more highly vascular than usual. She rallied well after the operation, had very little pain, so that only two

opiate enemata were administered. She passed a tolerable night, but became low and sick towards morning. Champagne, brandy and soda-water, wine and arrowroot, were given freely, and she sucked ice with pleasure. Hot poultices were kept on the abdomen, but the pulse became very feeble and rapid towards the afternoon, and she sank quietly twenty-four hours after operation.

On examination of the body twenty-four hours after death the heart and lungs were found to be healthy. The peritoneal cavity contained from four to five pints of reddish serum, but no blood-clot. There was a slight inflammatory blush over a few coils of small intestine, but no lymph, nor adhesions. The peritoneal aspect of the wound was united, but not so closely as I have seen when the peritoneum had been less altered by adhesions around the site of the incision. The uterus and left ovary were healthy. There was a little clot (probably about an ounce), the remains of extravasated blood, on the loose cellular tissue around the left round ligament. The serum found in the peritoneal cavity must have been a very active animal poison, for I suffered severely two days after the examination from a very slight scratch with the point of a needle on the left forefinger. I sucked the spot instantly, but the next day a small vesicle formed, and I applied caustic freely. On the second day I had severe rigors, lasting several hours, with intense headache, relieved by vomiting and a copious perspiration, which lasted about eighteen hours. For several days afterwards I was very weak, but all the severe symptoms had passed off by the fifth day after the puncture.

To this report of the case, which was published in May 1861, in the 'Medical Times and Gazette,' I added the following remarks, and subsequent experience has tended to support the views I then brought before the profession:—

'This recalls a question I have raised before. The peritoneum contained some pints of poisonous serum. It was probably formed by part of the membrane, and might be absorbed by other parts. If so, a poison which affected me so severely in a small dose might easily kill anyone in a larger dose. I recovered after the absorption of a fraction of a drop; but the poor woman was overpowered by the quantity taken up by her own absorbents. I am quite aware of the objection some may offer, that a fluid

poisonous after death might not have been a poison during the life of the woman ; the reply is, that twenty-four hours was too short a period after death for decomposition to have occurred ; and also, that all experience has proved inoculation of the fluids of those dying of puerperal peritonitis, erysipelas, &c., to be far more dangerous when the bodies have been fresh, than when putrefaction has commenced. This is not a mere question of theory or curiosity, for it leads to an important rule in practice —or rather to the suggestion that in cases where such poisonous serum may reasonably be supposed to be present, and *à fortiori* when there are physical signs of its presence, that a part of the wound should be opened to allow the free escape of the serum by the side of the peduncle. In two cases formerly published I acted upon this rule with the greatest advantage, and both patients recovered. The question also arises, whether one is not apt to unite the wound too closely round the peduncle. The fear is that peritonitis may be set up by leaving *any* opening ; and one generally closes the wound carefully around the peduncle, partly to prevent entrance of air, and partly to prevent gravitation into the abdomen of the putrid fluid formed around the stump during the time the ligature is in process of separation. This plan may be a good one on the whole ; but I am disposed to think that in many cases where there is such a condition as I have described after operation, a free opening should be made for the escape of the serum.'

Another question, of even greater importance, is suggested by this case—Is it right to perform such an operation as ovariotomy in unfavourable cases ? It may be said that by doing so the surgeon not only risks his own reputation, but lowers the operation he performs in the estimation of the profession, and thus lessens the number of favourable cases who might be willing to undergo it, were it not known that one in two, three, or four who do submit to it, die. It is quite clear that a surgeon who will only operate on very favourable cases ought to show far better returns than one who consents to stake his own reputation in order to give a dying patient a small chance of recovery ; and it may possibly be right to follow the more prudent course. But in a case where a poor woman says, as many have said to me, ‘ I suffer from a disease which must kill me. I cannot live very long. My life must be a life of suffering. If you operate,

I know the risk I run ; but I *may* be cured and return to my husband and children, and I would rather die than live as I am,—in such a case as this, I do not envy the feelings of a man who—unless he saw the case was absolutely hopeless—would let any consideration for the general character of surgery, or for his own reputation as a successful operator, induce him to refuse the prayer of the poor dying creature who placed her life in his hands.

Still, I think it is right that some classification of cases should be adopted, for what we want in practice is not an answer to the question ‘What is the general success of ovariotomy?’ What the patient and the surgeon want to know is, ‘What are the probabilities of success or failure in this particular case?’ and this knowledge can only be gained by testing the operation in various classes of cases—distinguishing those patients who are young and healthy from those who are old, or worn out by frequent tappings or long continued disease, and so on. If I were to exclude the fatal cases in my own practice which were regarded by myself and others in consultation as unfavourable before operation, I might say that I had scarcely lost a single case ; and my experience of those cases which may be regarded as favourable is bringing me to the conclusion that ovariotomy is one of the most successful of our capital operations, and not very much more dangerous than a simple tapping. I need hardly say that amputation of the thigh, ligature of the larger arteries, lithotomy in the adult, and other capital operations called ‘legitimate,’ show a general result less favourable than this operation, which is still stigmatised by some writers as ‘unjustifiable.’

CASE XXV.

Large Ovarian Tumour ; Ovariotomy advised ; Deferred eighteen months ; Performed too late ; Death on the fifth day.

C. B., aged thirty-four, single, called at my house early in 1860, just after she had been dismissed incurable from a hospital, suffering from a multilocular ovarian cyst of about three years’ growth. I thought it a very favourable case for ovariotomy, and advised her to submit to the operation without delay : but

I did not see her again for about eighteen months. She had been advised, in the meantime, to trust to palliative treatment, and had led a very miserable life, gradually becoming larger, and suffering more and more from the pressure of the tumour. At length she consulted Mr. Fergusson, who advised her to apply to me, and I saw her on the 22nd of June 1861. She was then only able to sleep when sitting in a chair. Her legs were œdematos, and the abdomen measured sixty inches in circumference, sixteen inches from ensiform cartilage to umbilicus, and thirteen from umbilicus to symphysis pubis. The annexed



woodcut, copied accurately from a photograph by Dr. Wright, gives an excellent idea of her appearance. I told her that the case was not a favourable one for operation; but, as she could not last long without relief, as ovariotomy was the only resource, and as she was most anxious to submit to it, she was admitted into the Samaritan Hospital on June 24, and I removed the tumour on the following day. Dr. Koepl of Brussels was present, in addition to my colleagues and several other visitors. About thirty-seven pints of fluid were first removed, twelve from the peritoneal cavity and twenty-five from the cysts, and then a semi-solid mass, weighing twenty pounds, was gradually withdrawn without much difficulty. The pedicle was secured

outside the wound. The patient went on remarkably well for four days after operation, but then began to sink very suddenly and died. At the post-mortem examination some recent lymph on the anterior surface of the liver was the only sign of peritonitis; but there was a good deal of turbid serum in the peritoneal cavity, and the intestines were much inflated. There was no blood in the abdomen. The pedicle had been cleanly divided, and it appeared that death had taken place from simple exhaustion.

I think the practical lesson from this case is the danger of putting off ovariotomy until it is too late. The patient had been persuaded to wait until the tumour had grown to an immense size, and her health was broken down; yet the removal was easily effected, and she went on so well for four days that there would have been a good prospect of success had the operation been performed when I first advised it. It is true that she might have died then, eighteen months earlier than she did; but her life during those eighteen months was a life of almost constant suffering.

CASE XXVI.

Large Multiple Cyst; Tapped eight times; Ovarian fluid in peritoneal cavity; Death two days after Ovariotomy.

A MARRIED woman, aged thirty-one, was admitted into the Samaritan Hospital on the 2nd of July 1861. She had been quite well until her marriage in the previous September, was always 'regular' until then, and once three weeks after marriage, but the catamenia had not appeared since. About a fortnight after marriage she had a good deal of pain on both sides, low down, but more on the right, attended with sickness, and she soon found that she increased in size. She went to Guy's Hospital in October, was tapped there on December 26, and 'three pailfuls' of fluid were removed. Six weeks after this she was tapped for the second time by Mr. Coleman of Plumstead, and four times afterwards, at intervals of four or five weeks; six times in all. After the last tapping, secondary cysts were felt. On admission, the circumference of the abdomen at

the umbilical level was fifty-five inches, and the distance from ensiform cartilage to symphysis pubis was thirty-four inches; the umbilicus being exactly half-way between the two points. She was much emaciated, and suffered from vomiting; and the pulse was 120. It being necessary to afford relief at once, and her state not being satisfactory for ovariotomy, I tapped on July 8, and removed twenty-eight pints of viscid fluid from a large cyst above the umbilicus. This being followed by relief, I tapped again, two days afterwards, and removed thirty-three pints of fluid from another cyst, below the umbilicus. Some restlessness and vomiting followed this second tapping for three or four days; but by the 16th she was much better. The bowels acted naturally, the tongue was clean, and the pulse down to 110. But the cysts began to fill again very fast, and it became quite clear that if ovariotomy was to be done at all, it must be done without delay. Accordingly, I operated on July 17. Professor Simpson was present, and several other visitors. Mr. Clover administered chloroform. After opening the peritoneal cavity by the usual incision, I found that it contained several pints of ovarian fluid, which must have escaped from the lower cyst after the last tapping. Some extensive parietal adhesions were broken down, and the cysts removed. The pedicle was secured without difficulty by ligature, and fixed by a hare-lip pin between the lips of the wound. Two vessels in the abdominal wall, opened in separating the adhesions, bled freely. One was tied, and the ligature cut off short. The other was very easily stopped by acupressure, on the suggestion of Dr. Simpson, a hare-lip pin being passed across it through the abdominal wall. The wound was closed in the usual manner. There was a great tendency to vomit for several hours after the operation. Late at night half a drachm of laudanum was injected into the rectum. The pulse was 110. The sickness abated during the night, but on the morning of the 18th retching was still troublesome. Pulse 120. Opium repeated. There was occasional sickness during the day. At 2 P.M. I removed the acupressure needle. At 7 the pulse got up to 140, and the sickness was more urgent. I then removed the pin which transfixes the pedicle, thinking that the traction on it might be keeping up the sickness. But the sickness did not abate. She continued to throw up large quantities of coffee-

coloured fluid, and gradually sank exhausted in the afternoon of the second day after operation.

The post-mortem showed nothing but turbid serum in the peritoneal cavity, and intestines distended with gas; no blood nor clot. The wound was well united, and the ligature on the pedicle nearly separated. It was clear that death took place from exhaustion, partly the result of the uncontrollable vomiting.

CASE XXVII.

Simple Cyst ; Never Tapped ; Ovariotomy ; Child born twenty months afterwards.

A SINGLE woman from Wolverhampton, aged twenty-seven, was admitted on July 16, 1861, to the Samaritan Hospital, suffering from a large ovarian cyst, apparently unilocular, or nearly so. She had never been tapped, and was in fair general health, although she had had to give up her place as servant three years before and live at home. The enlargement had been noticed since the age of sixteen. After explaining to her what might reasonably be expected from simple tapping, and from the injection of iodine, and putting fairly before her the danger of ovariotomy, she much preferred this operation to either of the other plans, and the operation was fixed for a day about ten days before the catamenia were expected; but they came on unexpectedly, and lasted till August 2. The 7th was then fixed upon, and I removed the cyst on that day, Dr. Forbes Winslow, Dr. Hilditch, R.N., Dr. Roberts of Manchester, Mr. Nicholson of Stratford, Mr. Gutteridge of Birmingham, and other gentlemen, being present. After exposing the cyst by an incision between three and four inches long, midway between the symphysis pubis and umbilicus, forty-four pints of limpid fluid were removed by the trocar, and the cyst gently withdrawn as it was emptied. One long narrow band of adhesion was divided. The pedicle was short and very broad, and contained some unusually large veins. Several smaller cysts were grouped at the junction of the principal cyst and its peduncle. The wound was closed in the usual manner. This patient recovered without a single unplea-

sant symptom, and is now strong and well. On measuring the cicatrix before she left the hospital, it was found to be exactly one inch and three-quarters in length. Mr. Gutteridge of Birmingham informed me that she had a fine healthy child born in May 1863, and that 'mother and child have done admirably well.'

CASE XXVIII.

Multiple Cyst; Twice Tapped; Recovery after Ovariotomy.

In May 1860 I saw a patient from Jedburgh, with Dr. Grant of Connaught Terrace. She was single, aged thirty-four, and suffering from an ovarian tumour. It seemed to have been of about a year's growth, but she had not consulted any one until she went to Dr. Grant, two months before my first seeing her. There were no urgent symptoms, and we advised delay, occasionally seeing her together. Early in August Dr. Rigby saw her, and after consultation with him and Dr. Grant, it was agreed that I should tap her. I did so on August 20, and removed thirteen pints of thick coffee-coloured fluid, containing a good deal of coagulated blood. She did not suffer from the tapping, and soon returned to Scotland. She filled very slowly, and remained in good health; but it became necessary to tap again, and I did this with Dr. Grant in May 1861, nine months after the first tapping, removing at this second operation twenty pints of a thinner fluid than before. But it was evident that some groups of secondary cysts had grown since the first tapping. She filled again slowly, and it was agreed, after consultation with Dr. Grant and Dr. Falla of Jedburgh, that I should perform ovariectomy about a week after the cessation of the menstrual period in August. Accordingly, I operated at her lodgings on August 15, 1861. Mr. L. R. Cooke administered chloroform, and I was kindly assisted by Dr. Grant, Dr. Rogers, and Mr. Obrè. There were no adhesions, and a multilocular cyst, weighing with its contents about seventeen pounds, was easily removed without a drop of ovarian fluid getting into the peritoneal cavity. The pedicle was secured outside by a clamp, which was left on. The wound was closed in the usual manner. She went on per-

fectedly well, but some considerable pain led to the injection of twenty drops of laudanum into the rectum every three or four hours. The pulse never rose above 88. On the 19th I found that she had had a restless night, which was explained in the morning by the unexpected appearance of the catamenia. On the 20th I removed the last of the sutures, but left the clamp undisturbed. I was called suddenly that evening to an important case on the Continent, and was away from London for ten days. During that time Mr. Cooke of Charlwood Street carefully attended to the case, and I found my patient convalescent on my return. Mr. Cooke had not touched the clamp, so I removed it. Three weeks after operation the patient was down stairs, soon afterwards returned to Scotland, and is now in excellent health.

CASE XXIX.

Ovarian Tumour and Ascites ; Once Tapped ; Death forty-seven hours after Ovariotomy.

ON September 30, 1861, I was requested to see, in consultation with Dr. West, Mr. Paget, and Mr. Vevers of Hereford, a lady who was suffering from ovarian disease and ascites. She was fifty-two years of age, and had had three children, the youngest of whom was eleven years old. The catamenia ceased in May 1859, having been irregular for some time before. The abdominal tumour was first noticed in June 1859, rather more to the right than to the left side. The legs swelled occasionally. Dr. West informed us that in November 1859 the abdomen measured thirty-five inches in circumference, and that during the next thirteen months, i. e. up to December 1860, it increased to forty-two inches. At the end of May 1861 it became necessary to afford relief, and she was tapped by Mr. Vevers of Hereford. Ten pints of clear straw-coloured fluid, sp. gr. 1021, were removed from the peritoneal cavity ; and twenty pints of a darker fluid, sp. gr. 1022, from an ovarian sac. A tumour still remained on the right side, reaching from the right iliac to the right hypochondriac region. There was no albumen in the urine. No inflammatory or other symptoms

followed the tapping. By September 2, 1861, the abdomen had increased to about its size before tapping, and measured forty-five inches in girth; and our consultation was held on the 30th, to consider whether simple tapping again or ovariotomy should be recommended. The points in favour of operation were, that the lady appeared to be in a fairly good state of general health, that the tumour was freely movable in the ascitic fluid surrounding it, that the central situation and free mobility of the uterus gave good reason to hope for a fair length of pedicle, and that I had had two successful cases in which similar ovarian tumours had been surrounded by ascitic fluid. It was also felt that such cases, if left to themselves, are more rapid in their progress than are ovarian tumours unaccompanied by ascites; and a few months, or at most a year or two, would probably be the extreme length of life if the lady were left alone or simply tapped, while there would be always some danger attending each tapping. The points urged against the operation were the age of the patient, and the fact that there was considerable anasarca. But, as the urine was free from albumen, the anasarca was attributed to the pressure of the tumour; and I had had successful cases of ovariotomy in older persons. Taking all this into consideration, Dr. West represented to the patient our conclusions that the case was a ‘fair average’ one for the operation—that there were reasons against it and others in its favour—leaving the decision entirely to herself. On the next day I was requested to perform the operation, and I did so on the morning of October 3. Mr. Vevers administered chloroform, and I was kindly assisted by Dr. West, Mr. Paget, and Dr. Collum. I agreed with Mr. Paget that we would only allow a part of the ascitic fluid to escape on first opening the peritoneum, leaving the remainder as a protection to the intestines until after the tumour had been removed. This we effected completely, for Mr. Paget kept the cyst pressed forward towards the incision before much ascitic fluid had escaped, and while the contents of the principal cyst were running off through a large canula. After emptying some secondary cysts, the whole of the tumour came away without our once even seeing the intestines. A broad pedicle was secured by a clamp, and the tumour cut away. The pedicle was then transfixated behind the clamp and tied in three portions. The clamp was then removed, when two vessels on the surface of

the cut portion bled and were tied, as the ligatures around the pedicle did not completely stop the bleeding. The remainder of the ascitic fluid was then allowed to escape, and the wound closed in the usual manner, the stump of the pedicle being easily secured outside. We noticed that the peritoneum, instead of being smooth and glistening as usual, had a rough red, granular appearance, as if it had suffered from chronic inflammation. The cyst and contents, together with the ascitic fluid, weighed about thirty-five pounds.

The patient went on remarkably well during the day, and passed a good night. She was almost free from pain, and was quiet, smiling, and cheerful. There was some oozing of bloody serum, and a little blood, from the stump, so in the afternoon of the day after the operation I re-applied the clamp close to the ligature. She appeared rather restless, and the pulse was becoming rapid; but she seemed to be going on very well, not having been troubled by pain or sickness. Dr. West and I saw her together at ten at night, when the rapidity of the pulse (130) was the only sign to excite uneasiness. But I was called at three in the morning and found her collapsed. The nurse then said she had complained of being cold and sick soon after twelve o'clock, but had soon recovered, until the alarming symptoms came on. She took brandy and champagne; beef-tea and brandy were injected into the rectum; hot poultices were applied to the abdomen, and hot bottles to the feet, but all proved quite useless, and she died forty-seven hours after operation.

At the post-mortem examination we observed proofs of extensive peritonitis, both recent and of old date. The left ovary was healthy. The right ovary had been removed. The broad ligament on this side was greatly hypertrophied, and a small piece of slough upon it enclosed in a ligature was fixed to the lower part of the opening made in the abdominal parietes. There was not a drop of blood, nor any clot, in the abdominal cavity. The peritoneal edges of the wound were perfectly united, and so folded together that the pins were completely concealed. The marks of peritonitis were not most intense around the operated parts, but in the neighbourhood of the liver.

CASE XXX.

Multiple Ovarian Cyst; Twelve Tappings; Ovariotomy; Recovery.

A. H., a cook, single, fifty years of age, was admitted on December 14, 1861, under my care, into the Samaritan Hospital, having been sent to me by Mr. Miles of Gillingham.

History.—She was quite well until seven years ago. She then began to find that the abdomen was getting bigger, but she had very little pain, and did not suffer much in her general health. Three years and a half ago she was tapped for the first time at the Salisbury Infirmary, and thirteen pints of thin fluid were removed. Up to this time the catamenia had been ‘ pretty regular,’ but afterwards the quantity became less, and the intervals increased to three or four months. Seven months elapsed before a second tapping became necessary. She was then tapped by Mr. Miles of Gillingham ; and, after thirteen weeks, a third time. She has been tapped twelve times in all, the quantity increasing and the fluid becoming thicker every time. The last tapping was eight weeks ago, when thirty pints of fluid were removed in a private hospital where she was told that her case was too unfavourable for ovariotomy.

State on admission.—Though emaciated, the general aspect is that of a cheerful tolerably healthy person. The abdomen measures forty-four inches in girth at the umbilicus, and twenty-two inches from ensiform cartilage to symphysis pubis. I examined her on the day after admission, and diagnosed a multilocular ovarian cyst, with some parietal adhesions, but without any unusual pelvic attachment. Considering that a menstrual period had ceased a week before her admission, that her size rendered immediate relief necessary, that each tapping would lessen the probability of success after ovariotomy, and that she was very anxious to have the operation performed, it was decided to operate without delay.

The operation was performed on December 17, 1861 ; Dr. Parson administered chloroform. Dr. Marion Sims of New York, Mr. Miles, jun., of Gillingham, and several other gentlemen were present. An incision was made five inches long over the linea alba, midway between the umbilicus and symphysis

pubis, going through some of the cicatrices left by tappings. The principal cyst was so closely adherent here that careful dissection was necessary to separate it from the peritoneum, and the cyst was opened during the process and emptied. More extensive parietal adhesions were then separated by the hand, and some groups of smaller cysts emptied by breaking them down with one hand in the empty cyst while the other hand was occupied in gradually withdrawing the mass of emptied and broken down cysts. The pedicle was short, but was easily secured by a clamp about an inch from the right side of the uterus, and the tumour was then cut away. On examining the left ovary, it was found atrophied, but a thin-walled single cyst, as large as an orange, was observed close to the uterus, within the folds of the left broad ligament. This was laid open by an incision and emptied. The wound was then closed by silver sutures, carried through the whole thickness of the abdominal wall, including the peritoneum. The clamp had been left on, and it was secured with the stump of the pedicle at the lower angle of the wound. The cyst walls and groups of small cysts removed weighed between nine and ten pounds; and they had contained about thirty pints of fluid, so that the entire weight of the tumour was nearly forty pounds.

The progress after the operation was most satisfactory. The patient had so little pain that not even a single dose of opium or of any other medicine was either given or required. The pulse never rose above 96, and was generally about 80. The clamp was removed on the fifth day, the slough then being quite dry and hard. The sutures were removed on the seventh day, when the wound was found to be firmly closed. The bowels acted on the ninth day, and on December 31, the patient was eating and sleeping well, and thoroughly convalescent. She left the hospital in good health, and has since worked well as cook in a large family.

This case shows that even in late stages of ovarian disease, in a patient past middle-age, and after repeated tappings, ovariotomy may be performed with success. The chief peculiarity in this case was the small cyst found in the opposite broad ligament, after removal of one ovarian tumour. The cyst was so closely adherent to the uterus that it could not have been removed with safety; and as it is well known that thin-walled single cysts in

this situation seldom refill after they have been emptied, I thought it not probable that, as it was freely laid open, it could lead to future trouble, and the event has proved this hope to have been well founded.

CASE XXXI.

*Solid Tumour weighing Twenty-seven Pounds removed;
Ovarian or fibroid? Death on the twelfth day.*

IN August 1861 the wife of a farmer, thirty-seven years of age, was sent to me by Dr. Lawford of Leighton Buzzard, who informed me that he had attended her for some years, that she had had two children, and that her last confinement occurred one year before. She first noticed the tumour in the spring of 1858, and consulted him respecting it about a year afterwards, —‘at which time it was about the size of an ordinary child’s head at the time of birth; it rapidly increased in size from that time.’

I saw her several times in August and September, and, considering the state of her general health at that time, did not think the removal of the large solid mass which occupied the abdomen likely to prove successful. She accordingly returned to the country; and, under Dr. Lawford’s care, and a course of iron and quinine, gradually improved in condition. She came to me again in November, much improved in strength, but suffering considerably from the weight and pressure of the tumour, which had slowly increased in size. It was clear that if an operation was to be done it ought not to be delayed long. Her general health was in as fair a state as it could be expected to be in, and it was ultimately arranged that I should perform the operation at Leighton, and that Dr. Lawford should take charge of the after-treatment. Dr. Parson went with me to administer chloroform, and I performed the operation on December 20. Mr. Ceeley of Aylesbury, Mr. Vesey of Woburn, Dr. Lawford, and Messrs. Bodger and Wagstaff of Leighton, being present and rendering assistance. The tumour was exposed by the usual incision, some vascular parietal adhesions easily broken down by the hand, and, as the tumour was quite solid, the incision was extended upwards to four or five inches

above the umbilicus, the lower angle being about two inches above the symphysis pubis. Extensive adhesions of omentum to the upper part of the tumour were then separated, as was a coil of intestine. One piece of omentum which contained several large veins was tied before division, and the ligature was kept outside the abdomen. The pedicle was of moderate breadth, and was secured by a clamp, the stump being fixed externally. The wound was dressed by several silver sutures passed down to the peritoneum and simply twisted. There had been a good deal of oozing of blood, before closing the wound, from the large surface of separated adhesions, but no single vessel required ligature. The tumour was a solid fibrous mass which weighed twenty-seven and a half pounds. She rallied fairly after the operation, and complained of some pain. Twice during the evening twenty drops of laudanum were thrown into the rectum. Pulse feeble at 120, skin natural.

First day after Operation.—She passed a good night, dozing frequently, vomited twice, took beef-tea, arrowroot with brandy, &c. When I left Leighton, the pulse was 116, and gaining strength; the skin was warm and moist, and she was easy and cheerful. From this time I am indebted to Dr. Lawford for the report of progress.

Second day.—She had a bad night, pain and sickness occasionally, and during this day there was occasional pain and sickness with distension of abdomen, quick pulse and dry skin. One drop of Prussic acid was given every two hours in a little champagne, which relieved the sickness, and turpentine was applied on the sides of the abdomen with the effect of relieving the pain.

Third day.—She slept better during the night, but had occasional sickness—no perspiration.

Fourth day.—Dr. Lawford writes: ‘I think I may give a good report. The usual symptoms have subsided in a great measure, and she takes solid food tolerably well. I did not remove the sutures and clamp until this evening, for she had distressing sickness, and I thought it better to leave them in. The abdomen is still considerably larger than it should be, but the pain is much less.’

I did not hear again till the seventh day, when Dr. Lawford wrote that symptoms of subacute peritonitis had come on, and

he said: ‘The abdomen is enormously distended, and last evening, during an attack of sickness, the upper portion of the wound burst open. I replaced the sutures a few minutes afterwards. She has taken solid nourishment up to the present time, but the pulse continues up to 135.’

Eleventh day.—Dr. Lawford wrote that the day before she had been incoherent at times, and had had one or two convulsive attacks. He added: ‘The ligature connected with the portion of omentum has not yet come away. I was pulling it this morning, but it would not separate, but an ounce or more of pure pus escaped from the aperture. She takes both solid and fluid nourishment, but the abdomen is much distended. I have blistered the abdomen freely, and administered an enema of milk occasionally.’

On the first of January, twelve days after the operation, the patient died. Great distension of the intestines, with flatus, had come on, and she sank in a state of unconsciousness. No post-mortem examination was permitted.

I have since regretted very much that the tumour was not preserved for careful examination, as (from examination of similar cases, and from the extreme rarity of such very solid tumours of the ovaries) I have latterly been led to suspect that this was not an ovarian tumour, but a pediculated fibroid out-growth from the uterus.

CASE XXXII.

Ovarian Tumour; Exploratory incision followed by Ovariectomy; Death from diffuse Peritonitis.

ON the 2nd of October 1861 I was requested by Mr. Rudall of Sheepwash, North Devon, to see a single lady, thirty years of age, the subject of an abdominal tumour, the nature of which had given rise to very different opinions. About a year before she saw me she had consulted Dr. Hingston of Plymouth, on account of some hysterical symptoms, and then incidentally alluded to the fact that she had discovered a tumour in the lower part of the abdomen some months before. She stated that her attention was first called to it by occasional pain, and

that it had not undergone much change in size, form, or position, during the time she had observed it. Dr. Hingston informed me that he had 'found a swelling of the size of a melon occupying the centre of the pelvis with a slight inclination to the right side. It was irregularly spheroidal in form, not nodulated, very hard and unyielding to the touch, and not readily movable either by pressure or by change of position. The os uteri was natural, and the uterine sound could be introduced to the extent of two inches.'

The patient was carefully watched by Dr. Hingston and Mr. Square from this time until March 1861. The growth was not rapid, nor was there any perceptible softening or fluctuation. Menstruation, which had previously occurred at too long intervals, and with much pain and sickness, had for the last two years occurred every fortnight, had lasted a week, and clots were generally passed. Locomotion was always attended and followed by much abdominal and pelvic pain. She had occasionally suffered from obstinate diarrhoea. She came to London in March 1861, and remained in an infirmary for nine weeks under two distinguished physicians, one of whom told me that he considered the tumour to be a fibrous growth of the uterus. In May she went into another institution, and remained there a fortnight. Two exploratory punctures were made by a surgeon, who, I was informed, had offered to remove the tumour if the patient and her friends wished it, but refused to do so without their full approbation.

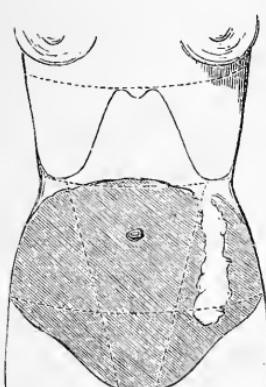
She then returned to the country, and remained until she consulted me in October. She was then suffering great pain at times, was seldom a day free from pain; was frequently sick, nervous and almost hysterical in manner, and complained of occasional cramps and numbness of the right leg. The abdomen measured thirty-four inches in circumference at the umbilical level, seven inches from symphysis pubis to umbilicus, and five from umbilicus to ensiform cartilage. The tumour reached very nearly up to the false ribs on both sides; but on the left side there was a space corresponding to the descending colon and sigmoid flexure, which was clear on percussion, as shown in the diagram on the next page. Indistinct fluctuation could be detected in every direction.

This condition and the history of the case led me to believe

that the tumour was a multilocular cyst of the right ovary; but on examination *per vaginam* I found such a depression on the left side of the uterus, that I felt confident there was also a tumour of the left ovary. The patient herself also said that since leaving London her symptoms had reminded her so much of those at the commencement of her illness that she felt convinced a second tumour was forming, and she regretted very much that the first had not been removed earlier. On the 8th of October Mr. Fergusson kindly saw her with me, and as he entertained doubts as to the precise nature of the tumour, and thought that her general health at that time was not favourable for any important operation, it was agreed that she should be watched for a time. On the 15th of October Mr. Sargent of Camberwell, who had seen the patient some months before, saw her again with me, and agreed that her state did not permit of operation at that time. She accordingly went out of town, and came to see me after a month.

On November 15 she had increased in girth one inch, and one inch in the measurement from symphysis pubis to ensiform cartilage. At a distance of four inches to the left of the umbilicus,

and extending downwards, there was a space clear on percussion in all positions, indicating that a coil of intestine was fixed and probably adherent there. I saw her again on December 5. The girth had then increased to thirty-six inches, and the tumour extended upwards to within an inch of the ensiform cartilage. Her general health was improved, and the uterus felt much more movable than before; attributable, as I thought, to the pelvic portion of the tumour on the left



side having risen upwards. Dr. West saw her about this time, and fully confirmed the opinion that the disease was ovarian. It was soon afterwards arranged that she should be admitted into the Samaritan Hospital, and a consultation was held there on January 9, 1862, with Mr. Fergusson, Dr. Savage, and Mr. Rudall. My other colleagues did not attend on account of the nervousness of the patient. There had not been much change since my report in December, but Dr. Savage satis-

fied himself that the uterus was fairly movable, and not closely connected with the tumour, and it was arranged that I should make my exploratory incision, and remove the tumour if practicable. There was no cyst large enough to be tapped with any prospect of relief, the general health (except extreme nervousness) was fairly good, and she was most anxious to have the operation performed. Accordingly, on the 13th of January, Dr. Parson having administered chloroform, and Mr. Fergusson, Mr. Rudall, and my colleagues being present, I made an incision five inches long, extending from the umbilicus directly downwards, and exposed an ovarian tumour composed of an immense number of very small cysts with very thin walls. A few parietal adhesions were easily separated by the hand, and, as no fluid could be removed by tapping, I introduced my hand into the tumour, and broke up a number of small cysts, withdrawing the tumour as it was emptied. A portion of the colon was drawn out with the tumour, and was adhering to it, but the adhesions were easily separated. As there was a great tendency to protrusion of intestine, I partially closed the parietal wound before securing the pedicle. I then passed a wire rope around the pedicle, about an inch from the left side of the uterus, tightened it by a tourniquet screw, and cut away the tumour. Some ovarian fluid had escaped into the peritoneal cavity, and I removed as much as I could by my hand and by pressure ; but, as the intestine was with difficulty kept from protruding, I did not sponge out the cavity so thoroughly as I have done on former occasions. The wound was then closed by silver sutures.

She did not rally well after the operation. Her pulse from the first was 110 to 120, and she complained of pain and irritability of the bladder. Opiate injections were used, but she remained very restless in the evening, and there was some vomiting. She seemed better during the night, and slept quietly at intervals ; but in the morning she became very low, vomiting became urgent during the afternoon, tympanitic distension of the abdomen came on, and she sank twenty-nine hours after operation.

On post-mortem examination proofs of general diffuse peritonitis were observed, many coils of intestine being glued together by recent lymph, and the surface of the peritoneum being covered generally by a pasty layer of the albuminous

portions of the ovarian fluid. Some of this fluid had gravitated into the pelvis, but there was no blood, nor blood clots, in the cavity. The pedicle was securely fastened an inch from the uterus, and was fixed at the lower angle of the wound. The right ovary was about twice its natural size, and some shreds of organised lymph were floating from its peritoneal coat. The peritoneal surface of the wound was united; but not so closely as I have seen in cases where hare-lip pins had been used. One coil of small intestine was adhering to the peritoneal aspect of the wound by recent lymph.

I learnt some useful lessons from this case. Many medical men of experience had watched its progress. Some thought it was a uterine tumour, others that it was a malignant growth somewhere in the abdomen; and those who believed it to be ovarian, thought the *right* ovary was the seat of disease. The history of the case and the numbness of the right leg favoured this view; and when I became satisfied that the *left* ovary was diseased, this was only regarded as a proof that *both* ovaries were affected. The signs observed after death of inflammation of the peritoneal covering of the right ovary are interesting in explanation of the symptoms referred to the right side. But the chief practical lesson is, to be very careful always to clear the peritoneal cavity at the time of operation from any ovarian fluid which may have escaped into it, and to look upon the practice of any one who disregards this caution as a dangerous error. The following remarks, which I made at the time, were published in the 'Medical Times and Gazette,' in July 1862.

'I blamed myself very much for having left ovarian fluid in the peritoneal cavity in this case; for when one reflects a little, the argument used in support of such practice—that as ovarian cysts often burst into this cavity and the patients recover, therefore ovarian fluid in the peritoneal cavity does no harm—is manifestly untenable. In the first place, patients often die of peritonitis so induced; or, if they recover, they do so after a smart attack of peritonitis,—not *always*, but it is the rule. But even if they always recovered, and without peritonitis, we must remember that the circumstances are essentially different. In the one case, the cyst bursts into a closed serous sac, in the other the fluid escapes into a sac freely open to the admission of air; it is probably mixed with blood from separated adhesions, and

is pretty sure to putrefy and to poison the patient, if she live long enough. I do not say that sponging is not better avoided. I say, take all possible precautions to prevent ovarian fluid or blood from getting into the peritoneal cavity; but I say it *will* sometimes get there in spite of the greatest care, and if it does, my experience tells me to sponge it away as completely as possible,—to use soft, small, perfectly new sponges, and to use them until they leave the cavity as clean as they enter it. I am glad to see that, in the first successful case in France, M. Nélaton says that he adopted this practice.'

This case led to some discussion at the time, and the foregoing report was read before the Obstetrical Society of London, as a reply to a statement made by Mr. B. Brown at the previous meeting. The following is the abstract of the paper, from the report of the meeting:—

'Mr. Brown having said at the last meeting, "He knew that Mr. Wells had operated on a patient, with a fatal result, which he and others of great experience had condemned as totally unfit for operation," Mr. Wells now narrated the case at length to the Society:—The patient was single, thirty years of age, the subject of a multilocular cystic tumour of the left ovary, of about two years' growth, which was removed by Mr. Wells on the 13th of January last. There were some adhesions, both to the parietes and to the colon; but they were easily separated. From an unusual tendency to protrusion of the intestine, Mr. Wells did not sponge out all the ovarian fluid which had escaped into the peritoneal cavity; and he partly attributed to this fact the diffuse peritonitis which proved fatal twenty-nine hours after the operation. In order to prove that Mr. Brown had *not* "condemned" this case as "totally unfit for operation," Mr. Wells produced a letter from the uncle of the patient,—a Fellow of the Royal College of Surgeons,—which this gentleman authorized Mr. Wells to bring before the Society, in which he stated that Mr. Brown had written to him saying that his niece's was "a fair case for operation." The uncle also enclosed, for the information of the Society, a letter from Mr. Brown to the father of the patient, in which Mr. Brown said that the tumour "could be removed by a dangerous operation. No one, however, can recommend it to be removed; yet if Miss —— determines she will elect to have the trial made, being fully aware of the

danger, then I will undertake the operation, with the sanction of her uncle, feeling that there is a fair prospect of success—*i. e.* as much reason to hope as to fear.” These letters, and the history of the case, were read without any comment from Mr. Wells.’

CASE XXXIII.

Multilocular Cyst once Tapped; Ovariotomy; Short Pedicle; Death from exhaustion on the fourth day.

ON June 17, 1861, I saw a married lady, forty-six years of age, in consultation with Dr. Markham and Dr. Currey of Lismore. She was suffering from a large multilocular ovarian cyst, the girth at the umbilicus being forty inches. She had been married in India when young, and had had one child and one miscarriage there, but no child after. Her husband having died, she married again in 1847. The catamenia had always been regular. Early in 1859 she noticed an increase in the size of the abdomen, which might have been of some standing. She increased slowly in size. The girth in February 1859 was thirty-four inches, and in May 1860 thirty-eight inches. The only pain complained of was down the front and outside of the right thigh.

As the increase in size had been very gradual, and there was no pressing necessity for any surgical interference, it was decided that she should return to the country and simply attend to the general health. About six months after, I received a letter from Dr. Currey, dated December 6, in which he informed me that the general health had been very good, and the increase in girth very little, until the last three weeks. But, since November 15, the increase had been at the rate of an inch per week; the circumference on December 6 being forty-three and a half inches, and the distance from the ensiform cartilage to pubes twenty-four and a half inches. She was also beginning to suffer very much from the distension; and, as the sufferings increased, she came to London, and arrived in such a state of distress that immediate tapping became necessary. I tapped her for the first time on December 20, and removed twenty-three imperial pints of fluid,

which contained a good deal of blood. Her size was reduced from forty-seven inches to thirty-five, but some secondary cysts were felt to be unemptied. She recovered well from the tapping, but began to refill fast, increasing from thirty-five and a half inches on the 24th to thirty-seven inches on the 29th. Her former sufferings also began to return. The pulse was rapid and feeble. She lost flesh, and there was some fever every night, followed by sweating. There was also some bronchial irritation, but Dr. Markham satisfied himself that there was no organic disease of heart or lungs. The cyst went on filling so fast that it became necessary to consider whether tapping should be repeated, or ovariotomy recommended, and Dr. West joined us, on January 14, to consult on this important question. The points in favour of ovariotomy were, that no other course offered even a chance of real good; and as so much feverishness had followed the first tapping, and as the cyst had refilled so rapidly, that even tapping would be very hazardous. The points against the operation were the feebleness, the emaciation, and the rapidity of the pulse, which was seldom under 100 and often up to 120. All this was fully stated to the patient, and the next day she decided to submit to ovariotomy.

I performed the operation on January 21. Dr. Parson administered chloroform. Mr. Paget, Dr. West, Dr. Markham, and Dr. Sanderson were present. The cyst was exposed by an incision five inches long in the usual site. It was surrounded by a little ascitic fluid, and was free from parietal adhesions. Holding the cyst well forward by a hook, I tapped it, and about twenty pints of very fetid turbid fluid escaped. As this was escaping, and the cyst becoming lax, the cyst was carefully tied round the canula, thus preventing the possibility of the escape of any of the fluid into the peritoneal cavity. A secondary cyst was tapped through the first without withdrawing the canula, and the whole was then withdrawn, after separating a piece of omentum, and a coil of intestine which was adhering to the upper part of the cyst. The pedicle was so broad that there was some difficulty in getting the clamp around it, and so short that the clamp was fixed close to the junction of cyst and pedicle, even including a portion of the cyst wall. But it was fixed outside the abdomen, and the wound was closed by three hare-lip pins and two superficial wire sutures.

She went on remarkably well during the day, without sickness, perspiring freely, and complaining of occasional pain, which was relieved by twenty minims of Tinct. Opii thrown into the rectum, and repeated three times before night. The pulse kept at the same rate, 120, as before the operation, but it was not so feeble:

First day after Operation.—Has passed a good night, has had no sickness, and is very cheerful and hopeful. Pulse 120, full, soft, and regular. I cut away most of the sloughy portion of stump outside the clamp in the morning. She had three more opiate injections during the day on account of occasional pain and irritability of bladder, but she seemed doing very well at night, except that the pulse had got up to 130, and I noticed an occasional intermission. I then removed the remainder of the sloughy stump.

Second day.—She passed another good night. The intermission in the pulse had ceased, but it was still at 130, not wanting in volume or force. No pain, sickness, nor any other unfavourable symptom. I removed the clamp, leaving the portion which had been compressed between the blades to separate spontaneously from the living portion of stump, which was adherent to, and plugging up, the lower angle of the wound. The upper part of the wound was firmly closed.

Third day.—I found that she had slept during the earlier part of the night, but that she had become chilly and faint, and slightly delirious towards morning. She was roused by warmth and stimulants, but the pulse was still rapid and feeble, ranging at 140 and upwards. She became feeble during the day, dyspnoea became urgent at night, and she sank in the morning of the fourth day, ninety-four hours after operation.

On post-mortem examination, the wound was found to be firmly closed; the peritoneal coat of the peduncle was adherent at the lower angle; and only a very small piece of slough adhered to the open surface of the stump. There was a little clear serum in the peritoneal cavity, but no blood, nor ovarian fluid, nor any trace of peritonitis. It appeared, therefore, that simple exhaustion was the sole cause of death.

I should have stated that she had been well supported by wine, beef-tea, arrowroot, brandy, &c.

CASE XXXIV.

Large Cysto-Sarcoma of Right Ovary; Three Tappings; Ovariotomy; Septicæmia; Death in sixty hours.

ON January 30, 1862, I went into Lancashire to meet Dr. Whitehead of Manchester, with the view of performing ovariotomy on the following day, upon a married lady, thirty-two years of age. She was married in 1851, had three children, the youngest two years and a half old, no miscarriages, and the catamenia had been regular until the last four or five months. She noticed that she did not regain her usual size and shape after the birth of the youngest child, but had no pain, and did not call for medical aid. After the death of one of her children, in January 1861, she had become sick and hysterical, but no tumour was discovered till she consulted Dr. Whitehead five months before I saw her, who detected an ovarian tumour with ascitic fluid surrounding it. She was tapped for the first time in October 1861, when eighteen pints of dark mucoid fluid were removed, and secondary cysts were felt to the left below the umbilicus. On December 10 she was tapped a second time by Dr. Clay of Manchester, who made three punctures internally, but only one through the skin. After the last of these punctures, a good deal of blood flowed away through the canula, about six or eight ounces of blood passed *per anum*, and a large clot came from the vagina a few days afterwards. She was in great pain, and in a very dangerous state for a week, and seriously ill for a month. She was tapped for the third time on Jan. 18, 1862, when thirteen pints of fluid, thinner and clearer than before, and not bloody, were removed. She rallied well, but the size went on increasing faster than before, and when I first saw her, with Dr. Whitehead, on January 31, immediate relief was necessary. I found a very large cyst above and to the right of the umbilicus, the stomach and intestines pushed over to the left and backwards, and the whole of the abdomen below the umbilicus filled by a solid tumour. There was ana-sarca of the lower limbs, and the abdominal cells were œdematosus. The uterus was free, but the anterior wall of the vagina was depressed, especially to the right side of the uterus. This prepared us for adhesions to the side and front of the uterus,

and we also detected adhesion to the abdominal wall. Still, as ovariotomy offered the only hope of any real relief, it was performed at once. Mr. Roberton of Manchester administered chloroform, and I was ably assisted by Dr. Whitehead, and by Dr. Potter of Liverpool. A little ascitic fluid escaped after I had made an incision from the umbilicus to two inches above the pubes; but the adhesions to the abdominal wall were so firm and extensive, that the large upper cyst burst during the separation. When the fluid had all escaped, the cyst was withdrawn, and the lower part of the tumour followed it without much difficulty. A narrow pedicle only connected the tumour with the right side of the uterus, and this was easily secured by a clamp; but a portion of the cyst below was so firmly attached to the bladder, and to the right side of the uterus and vagina and pelvic cavity, that it was thought better not to separate it, but to enclose the whole in a second clamp. The left ovary was healthy. Both clamps were fixed side by side across the lower part of the wound. The abdominal cavity was carefully sponged clean, and the wound closed by three hare-lip pins and several superficial sutures.

She rallied well from the operation, and she had only required one small opium enema when I left her in good spirits five hours after the operation. Dr. Potter remained in the house, and carried on the after-treatment, in consultation with Dr. Whitehead and with me by letter. She passed a good night, and went on very well for thirty hours, when she became feverish and complained of nausea. The pulse having risen from 90 to 120, Dr. Potter had given digitalis in effervescent draughts. Thirty-six hours after operation, he cut away the sloughs projecting beyond the clamps, and found the wound very healthy. Vomiting came on during the second night, and continued during the day, but without pain or swelling of the abdomen, and she kept solid food on the stomach in the intervals between the attacks of sickness. During the afternoon, very large quantities of glairy fluid were vomited, the debility became very great, and she sank sixty hours after operation. The semi-solid mass removed weighed fourteen pounds, the liquid measured twenty-six pints;—total, forty pounds. No post-mortem examination was made.

CASE XXXV.

Ovariotomy; Tetanus on the twelfth day, Death on the fourteenth.

AN unmarried domestic servant, thirty years of age, was under my care in the Samaritan Hospital in May 1862, with an ovarian cyst which filled the whole abdomen up to three inches above the umbilicus. On the left side there was exactly such a limited space clear on percussion as may be seen in the diagram on page 96, indicating that the colon was fixed there; but the remainder of the tumour appeared to be free from adhesions. The uterus was freely movable. She had never been tapped, and the growth of the tumour dated only from the previous autumn. In December and February she had had two severe attacks of peritonitis. I operated on the 9th of May 1862, exposing the cyst by an incision commencing an inch below the umbilicus and extending five inches downwards. There were no parietal adhesions, but the surface of the cyst was covered by a layer of old organised lymph. The cyst was tapped by the new trochar which I then used for the first time, and which has since been brought before the Medico-Chirurgical Society, and will be figured when I come to describe each step of the operation in another chapter. The cyst-wall was tied over the canula, and the escape of ovarian fluid thus prevented. An adherent coil of intestine and a large piece of omentum were easily separated by the hand. The intestine was returned, the omentum kept outside on account of bleeding vessels. The pedicle was secured by a calliper clamp, the cyst cut away, and the wound closed; the pedicle being kept out at its lower angle, and a small piece of omentum which had been tied was kept out between two hare-lip pins.

The patient recovered admirably after the operation. She only required one dose of opium, and the pulse ranged from 90 to 100. She had no pain, and her cheerful placid aspect delighted M. Nélaton and others who visited her several times. But on the evening of the 20th, eleven days after operation, she complained of a feeling of faintness, and some pain in the abdomen, as if the catamenia were coming on. The next morning she complained of some stiffness of the jaw; and on examining

the abdomen, there was evident tetanic rigidity of the recti. The clamp had come away on the third day, but a live portion of pedicle, larger than a walnut, remained projecting at the lower end of the wound, the slough caused by the pressure of the clamp adhering to it. The slough had been gradually separating. The small piece of omentum also remained at the centre of the wound. Thinking that either pedicle or omentum might have something to do with the tetanic symptoms, I cut them both away, tying four arteries which bled on the cut surface of the pedicle. I also ordered a turpentine enema. This was given, repeated, and acted freely. At 2 p.m. she was in a profuse perspiration; pulse 112, full and soft. She was easier, and there was some appearance of menstruation. At 7 p.m. the pulse was up to 120; tetanic spasms of the recti became more frequent; the teeth were clenched, and though swallowing pretty well, the act brought on the spasms. At ten the pulse was up to 160, and there was great difficulty of breathing, relieved by hot wine, and followed by profuse sweating. Early in the afternoon I had decided on trusting to warmth, quiet, wine, and chloroform, giving no further medicines after the turpentine enema. She inhaled the chloroform as soon as the spasms were coming on, and continued it till they passed off. The spasms continued during the night, but diminished in frequency early in the morning. At ten the pulse was down to 96; perspiration continued, and she remained apparently much better during the day, breathing a little chloroform occasionally; but at night the spasms became more severe and frequent, and the power of swallowing was almost lost. Pulse 110. Chloroform was given almost to insensibility, and repeated a few times during the night, but the spasms were not frequent. The next morning the pulse was again down to 96, and she looked so much better all the forenoon, that I was very hopeful about her; but all at once in the afternoon a violent spasm came on, with croupy respiration, dusky face and lips, rapid strong pulse, and such a retraction of the walls of the chest at each attempted inspiration, pointing to laryngeal obstruction, that I instantly opened the trachea. The respiration immediately became tranquil, though very shallow, and gradually ceased; and we noticed that the heart continued to beat vigorously for fully three minutes, and more feebly a minute longer, after respiration had

become imperceptible. We made an examination of the body, but found nothing whatever to account for the tetanus. The wound was perfectly united, both on its cutaneous and peritoneal surfaces, and the pedicle and portion of omentum were closely connected with the cicatrix, but there was no traction on either. There was no sign of peritonitis, nor could we trace any altered nerve or vessel from the neighbourhood of the cicatrix. I had one consolation in this case, for a friend told me of two cases of tetanus which he had seen after the simple operation of tapping a hydrocele. It may seem strange to console oneself by the misfortunes of one's friends; but it certainly is satisfactory to feel that the tetanus was not specially attributable to the operation of ovariotomy in my case, any more than to the tapping the hydrocele in the others.

CASE XXXVI.

Multilocular Cyst; Never Tapped; Ovariotomy; Pelvic Haematocele and Pyæmic Fever; Vaginal Tapping; Recovery.

A MARRIED woman, forty-one years of age, mother of six children, was admitted, April 30, 1862, under my care into the Samaritan Hospital, having been sent by Mr. Sadler of Barnsley. She came in with a large multilocular cyst of two years' growth, and had suffered so much for the last two months, and had become so emaciated, that if it had not been for a certain appearance of cheerfulness and determination to get well about her, I should have declined to operate. She had not been tapped. Her pulse had been for some time very rapid; but this I attributed to inflammation going on within some of the cysts, and it only induced me not to lose time, especially as the uterus was normal, central, and freely movable, and there was no part of the tumour in the pelvis.

I removed it on May 14. M. Nélaton was present, and took great interest in the operation. Dr. Ramsbotham and Dr. Protheroe Smith were also among the visitors. I made an incision five inches long from two inches below the umbilicus, separated some adhesions between the cyst and abdominal parietes very easily, and finding no cyst large enough to be

emptied by tapping, I passed my hand into the centre of the mass and broke up the septa, pressing out the contents, and withdrawing the tumour as it was thus lessened. A piece of omentum was easily separated, a broad pedicle secured by a clamp, and the tumour was then cut away. Then I found that there was free bleeding between the clamp and the uterus, and I put on a second clamp behind the first and behind the bleeding surface. But the second clamp pressed through the soft pedicle just as the first had done, and I had to grasp the uterus with one hand while I caught up an artery just where the Fallopian tube came off from the uterus, and Dr. Rogers tied it. Still there was free venous bleeding, and we tied two clusters of large veins close to the side of the uterus. Then the bleeding ceased, and I closed the wound, bringing the ligatures out at its lower angle, after I had thoroughly sponged out the peritoneal cavity.

As the patient left the Hospital in very good health on the 27th of June, I will only refer to one point in the progress of the case after operation which was new to me. On the tenth day, after having been going on fairly well, she began to look yellow, to lose appetite, and to feel very weak. The pulse, which had varied from 110 to 120, rose to 130 and 140, and there was a discharge of gelatinous mucus from the rectum. On examination, I found a depression of the recto-vaginal septum, which led me to fear some serous or purulent collection in the pelvic cellular tissue. She improved a little next day, but on the twelfth day was more depressed and yellow than ever ; there were aphthæ on the tongue and cheeks, with rapid shallow breathing, and very viscid bronchial secretion was coughed up with difficulty. The tension of the recto-vaginal septum having increased, I passed a trochar into the most projecting part in the vagina, behind the uterus, and evacuated eight ounces of very fetid bloody serum. This was followed by a discharge of grumous pus and by immediate relief, with improvement in her general condition. Two days afterwards a very free discharge of fetid pus escaped by the side of the remains of the pedicle, and this continued in varying quantity for several days ; but she gradually improved in health, left her bed on June 7, walked down stairs without assistance on the 10th, and left the Hospital on the 27th, in a very fair state of health and excellent spirits. She has since enjoyed excellent health.

CASE XXXVII.

Large semi-solid Tumour; Doubtful Diagnosis; Ovariotomy; Recovery.

THIS patient was thirty-five years of age. She had been married four years, and had been quite well until May 1861. About this time the catamenia became irregular, and the abdomen began to increase in size. Pregnancy was suspected, but she went into St. Bartholomew's Hospital early in January 1862, and remained there a week under Dr. Greenhalgh, who gave a very decided opinion that she was suffering from ovarian disease. Others, however, having expressed a different opinion, she called on me on January 30. I found an abdominal tumour, extending from the pubes to half way between the umbilicus and ensiform cartilage, and reaching low down into the right flank, but on the left side the hand could be passed down between the tumour and the ilium. The tumour felt solid. I could detect no fluctuation either in or around it. It did not adhere to the parietes, and it was slightly movable from side to side. The sound of the aorta could be heard nearly all over it. Low down in the left flank there was an indistinct blowing sound. Nothing like the sound of the foetal heart could be heard. A few papillæ were developed around the mammary areolæ, which were dark. On examining by the vagina, I did not wonder at the suspicion of pregnancy, for the tumour felt exactly like the head of a child just above the brim of the pelvis, and on pressing it it receded and returned; although this *ballottement* was not very well marked. On moving the tumour in the abdomen the movements of the tumour in the pelvis were felt to correspond in all directions, and the cervix uteri did not move with the tumour. The cervix was far back, large and soft, and the os seemed to be closed, so that I did not think it right to use the sound, especially as there were no urgent symptoms. I told the patient that I was disposed to agree with Dr. Greenhalgh, and believed that the tumour was ovarian; but that it would be desirable to wait for a time. A fortnight afterwards she went to a distinguished physician-accoucheur, who saw her three times at intervals of a week, and came to the conclusion either that there

was some abnormal form of pregnancy—tubular or interstitial—or a fibroid tumour of the uterus. The tumour increased slowly in size, and early in April the general health began to fail. She came into the Samaritan Hospital for a few days towards the end of April. One of my colleagues thought the tumour was ovarian; another thought it was uterine—whether foetal or fibroid he did not say. It felt extremely like a foetus through the abdominal parietes, and the *ballottement* between the cervix uteri and symphysis pubis was very suspicious; but then there were no foetal movements to be detected (though the patient said she felt them), no sounds of foetal heart, no placental souffle. As there was no fluctuation, and as the sounds of the aorta were transmitted, it was clear that the tumour was more or less solid; but still there was an evenness of surface (notwithstanding the irregularity), and an elasticity about it, which gave me more the idea of an ovarian than of a uterine tumour. She left the hospital, went to the country, and I saw her on her return in May. She was getting larger, losing appetite, breathing with difficulty, and losing sleep from pain. So she came into hospital again, and M. Nélaton joined our consultation on May 17. At this time a little ascitic fluid had collected, and it assisted greatly in the diagnosis, for it allowed the tumour to move much more freely, and we all became convinced then that the pelvic portion of the tumour was independent of the uterus. On placing a finger on the cervix uteri, and moving the tumour by pressure on the abdomen, the uterus was felt to remain unmoved, except when the tumour was pressed directly upon it. But on placing the finger anterior to the uterus, so as to feel the tumour through the upper wall of the vagina, every movement of the upper portion of the tumour was felt simultaneously in the lower portion. It therefore became quite clear that the uterus was behind the tumour, and that one could be moved independently of the other; but the question was still mooted whether the tumour was ovarian, or a fibroid outgrowth from the uterus. We decided to wait a little, and she went home; but as increase became more rapid, and the distress caused by the pressure greater, she was readmitted for operation on June 2. There was then less ascitic fluid than when M. Nélaton saw her, but I suspected that there was some recent lymph present between the surface of the

tumour and the abdominal parietes, as a soft crackling or rubbing could be both felt and heard. The upper border of the tumour could be felt reaching up to the ensiform cartilage, and here a yielding doughy sort of sensation on pressure led me to suspect the presence of a piece of adherent omentum. I felt quite satisfied, whatever the tumour might be, that its connexion with the uterus was sufficiently loose to admit of removal; although I *believed* it to be ovarian I was obliged to admit the possibility that it *might* be uterine, and therefore, to avoid all chance of misunderstanding, I wrote down the following diagnosis, and showed it, before the operation, to the gentlemen present: ‘Either a semi-solid tumour of the right ovary, or a fibroid outgrowth from the uterus, with some ascitic fluid on the surface, and a probability of adhesions on the left side between the tumour and intestine, and of omentum over the upper surface.’ I removed the tumour on June 5. M. Demarquay of Paris, Mr. Hey of Leeds, Dr. Aveling of Sheffield, and several other friends, were present. I first made an incision five inches long, from the umbilicus directly downwards, exposing the tumour and allowing some ascitic fluid to escape, with a good deal of gelatinous lymph. On making a puncture I found, as expected, that the tumour was nearly solid, and accordingly extended the excision upwards to four inches above the umbilicus. Then I separated a large piece of omentum which adhered to the upper surface, and attempted to withdraw the tumour. But I found that to do this without lessening its size would render an incision necessary from sternum to pubes, and I preferred the risk of breaking up the tumour. On doing this a quantity of pseudo-colloid matter escaped into the peritoneal cavity, and I was able to withdraw the tumour, and cut it away after securing the pedicle by a clamp. After thoroughly sponging out the peritoneal cavity the wound was closed by sutures of iron wire, and the clamp and pedicle were fixed outside the lower angle of the wound.

There is nothing to say of the after progress of the case, except that the patient got well without a check, and left the hospital three weeks after operation in good health. I have seen her several times since, and have found that she has remained perfectly well.

CASE XXXVIII.

Large Multiple Cyst; Iodine Injected; Ovariotomy; Recovery; Birth of a Child two years afterwards.

AN unmarried lady, twenty-eight years of age, was sent to me by Dr. West on the 7th of June 1862. With the exception of menorrhagia, which had always been troublesome, she had been well until the preceding summer. She then had some pain low down on the left side, but it went away, and recurred more violently in November 1861. Pain and sickness became frequently troublesome, and were increased at the periods. In January 1862 Dr. West was consulted, and detected ovarian disease. The size continued to increase; and, in March, Mr. Paget removed six quarts of fluid by tapping, and injected iodine. Sickness and pain were severe for three days. She remained small for a month or six weeks, but had increased to about the same size as before the tapping. The girth was thirty-seven inches, length from sternum to pubes fifteen inches. The whole abdomen was filled by a non-adherent cyst, which appeared to be unilocular, or nearly so, from the extreme regularity of the fluctuation in all directions. It was found afterwards that this was owing to the tension of small cysts with very thin cyst-walls. The pelvis was free, but the uterus was elevated, drawing up the vagina like a long funnel.

I advised ovariotomy without delay, and performed the operation on the 11th of June 1862. Dr. Parson gave chloroform; Mr. Bateman of Islington, Mr. Pierce of Notting Hill, and Dr. Savage were present. On opening the peritoneum by an incision between four and five inches long, extending downwards from an inch below the umbilicus, some small tense cysts with very thin walls were seen emptied and withdrawn. Some adhesions near the site of the tapping were then separated, and the whole tumour brought out. I then found that the tumour was quite closely attached to the right side of the uterus; there was nothing like a pedicle. I accordingly passed the chain of an écraseur above the Fallopian tube and below the round ligament, and tightened it quite close to the uterus. I then cut away the tumour, and afterwards pared down the stump nearly to the tight chain. I then loosened the chain, intending to tie

any vessels which bled, but there was no bleeding. So the chain was removed, the pelvis cleansed, the left ovary found to be healthy, two small pediculated cysts of the left broad ligament twisted off, and the wound was closed by two deep and four superficial sutures of platinum wire.

There was no sign of haemorrhage after the operation, but more opium than usual was taken on account of pain. Sickness also was troublesome on the second day. There was a little oozing of blood from one of the stitches at night and next morning, but it ceased spontaneously. Early on the third day the catamenia appeared and continued freely. After this she improved. On the sixth day, I removed the deep sutures. A little pus came from the track of each. Two days afterwards she was restless, and bilious vomiting recurred. I removed the superficial sutures, a drop or two of pus following each, and a small slough was caused by the lowest; but the wound was quite healed. For the next three days she was restless, and there was free oozing of pus from two of the suture points; but she went out of town on June 30 with the wound quite healed, soon gained strength, was married in the summer of 1863, and a fine strong child was born in August 1864. Dr. King of Camberwell attended her, and informed me that the labour was perfectly natural.

I used platinum sutures in this case, to ascertain if any advantage would arise from the use of a metal which would not oxidise like silver or iron, and remembering the use of platinum sutures twenty-five years ago by Mr. Morgan at Guy's Hospital. But I have scarcely ever seen so much suppuration in the track of the sutures as in this case; and it taught me to look to the size of the needle, the size and smoothness of the thread or silk, the tightness with which it is tied, and the time it is left, as having more to do with suppuration or sloughing than the material of which the suture is composed.

CASE XXXIX.

Multiple Cyst once Tapped; Suspicious State of Lung; Ovariotomy; Secondary Hæmorrhage; Pelvic Hæmatocèle; Vaginal Tapping; Recovery.

THIS patient was sent to me by Dr. Whitehead of Manchester, as a fit case for ovariotomy. She was twenty-five years of age, and had been married thirteen months. She had been in good health until three months after marriage, when a severe pain came on in the left iliac region, which was soon followed by abdominal enlargement; and the pain ceased until January 1862, when it returned. She was tapped by Dr. Whitehead, and sixteen pints of fluid were removed from one large cyst, but groups of secondary cysts remained. She was pale and emaciated, and there was rather a suspicious want of respiratory murmur at the apex of the left lung, especially as one sister had died of phthisis; but as there was no marked dulness nor increased vocal resonance, we trusted that the deficient expansion of lung was due to the interference of the abdominal tumour with the free action of the diaphragm.

I performed the operation on June 27, in the Samaritan Hospital. Dr. Gueneau de Mussy, Mr. Holden, Dr. Wyatt, &c., were present. The incision was made five inches long from one inch below the umbilicus. A thin-walled cyst was exposed, some extensive parietal adhesions easily separated, several cysts emptied and readily withdrawn, and a narrow pedicle having been secured by a piece of wire-rope, which was tightened by an écraseur screw, the tumour was cut away, the pelvis sponged out, and the wound closed by pins and sutures, leaving the pedicle secured by the wire-rope at the lower angle of the wound. She rallied well, but soon became restless and began to vomit. Three hours after operation, forty drops of laudanum were injected into the rectum, but she still remained very restless, and after an hour—that is, four hours after operation—the nurse found that she was bleeding, and sent for me. On removing the bandage and dressing, I found very free bleeding going on from the side of the pedicle. I could not exactly make out whether any part of the pedicle had slipped back from the grip of the wire-rope, or whether the wire had cut the pedicle, and the drag from the uterus had torn

it partly through; but certain it was that I could not draw out the pedicle and reach the bleeding surface by pulling on the wire, so I at once reopened the wound by removing hare-lip pins and sutures, grasped the uterus, and tied the bleeding surface in three portions. This quite stopped the bleeding. It had been very free, and at one time when the patient had fainted I feared that she was dead. But I determined not to lose a chance: had brandy poured down her throat, cleaned away all blood and clot from the peritoneal cavity, and reclosed the wound, bringing the three ligatures out at the lower angle, but allowing the uterus to sink back to its normal position. She had been almost unconscious of all this; but she vomited and soon rallied, and though she gave us all considerable anxiety for some days, she recovered well. It is noteworthy that in this case, as in Case 36, where I had to apply ligatures close to the uterus, I had to deal with a collection of fetid fluid in the pelvis. For some days the pulse had been rapid; there had been a tendency to vomit; the pallid face had put on a dusky, jaundiced tint; the urine had been ammoniacal: and, guided by the other case, I had been watching for a pelvic abscess. I felt a fulness between the uterus and rectum, causing a projection of the posterior wall of the vagina, for three or four days before it was sufficiently marked to induce me to puncture; but on July 10 I passed in a trochar, and evacuated eight ounces of dark-coloured fetid fluid. She said she felt immediate relief; and she continued to improve from that time, although but slowly. One of the ligatures came away on the 23rd, but the two others held fast when she left the hospital on August 5, with the wound otherwise healed, and they did not come away until several weeks afterwards. But they caused no inconvenience. She perfectly recovered, and has remained in excellent health.

CASE XL.

Multilocular Ovarian Cyst; Ovariotomy; Ligature of Omental Vessels; Recovery.

E. F., aged twenty, single, was admitted under my care in the Samaritan Hospital on July 5, 1862.

History.—Has been employed in a shop, but was obliged to leave in March 1860, having been getting large in the abdomen after two attacks of pneumonia in 1858 and 1859. For the last two years has been gradually losing flesh, while the abdomen has gone on increasing. The catamenia were regular until last autumn; then they came on every fortnight, and then every week, lasting three days, so that she was scarcely ever free; but they stopped suddenly last Christmas from the day of the death of a relative, and she has ‘seen nothing’ since January. I saw the patient in June, in consultation with Dr. Hawksley, who, finding the heart and lungs healthy, had recommended ovariotomy.

State on Admission.—She was pale and extremely emaciated, but cheerful. The whole abdomen was occupied by a large multilocular ovarian tumour, which extended upwards beneath the false ribs, pushing them outwards and the ensiform cartilage upwards. The girth at the umbilicus was forty-four and a half inches, and the distance from ensiform cartilage to symphysis pubis twenty-two and a half inches—the umbilicus being exactly midway between the two points. Her breathing was much oppressed. She was frequently sick, and locomotion was very difficult. The uterus was central, normal, and movable.

Operation, July 5.—Dr. Parson having administered chloroform (Sir Joseph Olliffe, Drs. Bache and Michon of Paris, and many other visitors, being present), I first exposed the cyst by an incision six inches long, extending downwards from one inch below the umbilicus. Some extensive parietal adhesions passing quite up to the false ribs were then separated by the hand. One large cyst was tapped, emptied, and the cyst wall was tied around the canula. A second cyst was tapped through the first without withdrawing the canula. A large semi-solid mass above made it then necessary to extend the incision to two inches above the umbilicus. A large piece of omentum, and another of mesentery connected with a loop of intestine, were then separated by the hand from the upper portion of the tumour, and were held outside to prevent bleeding. The tumour was then withdrawn. The pedicle was secured by a clamp about two inches from the right side of the uterus, and the tumour was cut away. The left ovary was found to be healthy. Several vessels in the omentum and mesentery bleeding freely, four of

them were stopped by torsion, and a large piece of torn omentum having been separated by the instrument which had just been described by Mr. Clay of Birmingham, three arteries (which still bled freely on the surface which had been rubbed through) were tied by very fine silk. The ligatures were cut off close and returned with the omentum. The peritoneal cavity was then carefully sponged free from all blood and ovarian fluid, and the wound was closed by hare-lip pins (passing through the whole thickness of the abdominal walls, including the peritoneum) and by superficial wire sutures. The fluid collected weighed twenty-seven and a half pounds, the tumour eleven pounds, and as some pints of fluid escaped, the tumour must have weighed, when entire, upwards of forty pounds.

The patient rallied well after the operation. She had two small opiates during the night. Healthy reaction came on, but without pain or vomiting, and perspiration was free. The hare-lip pins were removed three days after operation, and the clamp on the fifth day. The bowels acted naturally on the eighth day. By the eleventh day nearly the whole of the slough caused by the clamp had separated, and the wound was nearly closed. On the 22nd (seventeen days after operation) she was exposed to a draught of cold air when perspiring. This was followed by sickness, abdominal pain, rapid pulse, and hurried breathing, which lasted two days, but went off with free perspiration. After this, recovery was uninterrupted. She left the hospital in good health a month after operation; having been out for a walk some days before. She then went to Margate, and returned quite strong and rapidly gaining flesh. She has since returned to her occupation in a shop, and is in perfect health.

The following remarks upon this case which I made at the Samaritan Hospital, Monday, June 14, 1862, were published in the 'Medical Times and Gazette':—

'The young girl whom you now see looking so well and happy is hardly to be recognised as the same person from whose abdomen some of you saw me remove, only last Monday, an ovarian tumour which weighed more than forty pounds. A week ago she was a pale emaciated girl, with the anxious suffering expression, the compressed elongated lips, the depressed angles of the mouth, the deep curved wrinkles around them, the widely-opened sharply-defined nostrils, the prominent cheek-

bones, the sunken eyes, the furrowed forehead, so often seen in the subjects of ovarian disease—pointing not only to such a loss of fat as leaves the bones and muscles almost as perceptible as if they had been dissected, but also to something more—to the heavy weight the patient has to carry, and to carry in a situation impeding respiration and preventing free action of the diaphragm; for the tumour encroaches on the thoracic cavity, displaces both lungs and heart, and interferes with their functions. Now all this morbid physiognomy has disappeared. It disappeared, indeed, a few hours after the removal of the tumour. Even a casual observer would then have seen that the girl had been relieved of a great load; and since then day by day, as she has had to speak thankfully of quiet nights, of unwonted freedom of respiration, of absence of pain, and of returning appetite, so have we seen the colour return to her lips and cheeks, the eye brighten, and the furrows and wrinkles of premature emaciation begin to disappear, as the body has begun again to be nourished, since the drain upon the system caused by the rapid growth of the tumour has been stopped. At first, the sudden removal of such a strain seemed to be almost too much for the system; it seemed as if it were difficult for heart and lungs to play with even balance under so much lighter a task—the pulse was a little hurried, the face flushed, the skin rather hot. But soon we had a free perspiration, and all went well. Just at this time I was a little amused by the different views taken of the case at the same time by two worthy friends of mine. Each observed the same symptoms, but interpreted them very differently. One, more at home in the dissecting-room and the dead-house than at the bedside, began to speak ominously of peritonitis, to suggest leeches with calomel and opium, and seemed surprised at my being content to let what I thought well alone. My other friend, one whose life has been passed in watching and treating disease—not merely in examining and collecting the fragments of the wreck after the storm has left it shattered on the shore, but in noting the warnings of the coming tempest, and in learning how to trim sail, to bear up or lay to, and what course to steer to reach a safe anchorage—this true pathologist saw nothing to alarm him in the quickened pulse, the warm skin, or the flushed face; he looked quite delighted, and exclaimed, “*What nice reaction!*” He exactly expressed

my own thoughts, and two small opiates given during the night after the operation to quiet pain, have been the only medicines of any kind which this patient has taken.'

CASE XLI.

Multilocular Ovarian Cyst; Ovariotomy; Recovery.

M. A. D., aged forty-three, single, a household servant, was first admitted to the Samaritan Hospital in May 1862, having been sent to me by Mr. Taylor of Wargrave. She was then pale, feeble, but fat, and stated that she had always been delicate, but never very ill till two years and a half before. She then found her abdomen getting larger, and became subject to pain. A surgeon to whom she applied then discovered a 'swelling' to the left of the umbilicus. A few months after she found another on the right side. She then had an attack of violent abdominal pain, chiefly in the left iliac region, attended with much tenderness. In November 1861 she was admitted to the Oxford Infirmary under Dr. Child. Her legs were then much swollen, but they subsided under the treatment adopted, and Mr. Symonds proposed to perform ovariotomy, but the patient would not consent. She was tapped, and eleven pints of fluid were removed, leaving a great portion of the tumour undiminished. She obtained great relief from the tapping, and went home; but soon afterwards began to increase, and came to London. She remained in the Samaritan Hospital during May, but her general state was then so unsatisfactory that I would not perform ovariotomy, though she was very anxious to have it done. The pulse and heart's impulse were very feeble, and the legs oedematous, but there was no albumen in the urine. She was ordered steel and quinine, a generous diet, and was sent to the country. Her general condition then improved, and she was readmitted in much better health on July 23, 1862. The catamenia had been regular till the tapping, but she had 'seen nothing' since. The whole abdomen, from the pubes to within an inch of the ensiform cartilage, was occupied by a multilocular ovarian cyst. The girth at the umbilicus was forty-one inches; the distance from ensiform cartilage to symphysis pubis eighteen inches. Parietal adhesions were evident, but the pelvis was free.

Ovariotomy was performed on July 28, in the presence of Professor De Toca of Madrid, M. Gayet of Lyons, Dr. Ciuccio of Naples, and many other visitors. An incision was made from one inch below the umbilicus directly downwards for five inches. The tumour was so closely adherent here that it was opened, and a large cyst (which contained sixteen pints of fluid) was emptied before the peritoneal cavity was opened by any attempt to separate the adhesions. It was necessary to carry the incision upwards above the umbilicus before it was possible to find the line of demarcation between the cystic and parietal layers of peritoneum. This was done; some very firm adhesions were broken down by the hand; a small piece of omentum was separated; and the cyst was withdrawn, after removing a long line of attachment to the left broad ligament and Fallopian tube. The pedicle, on the right side, was secured by a clamp, and the left ovary being found healthy, the wound was closed by hare-lip pins and wire sutures in the manner I then adopted. It was not necessary to sponge out the peritoneum, as nothing had escaped into it.

She rallied well, but required three small opiates during the night, on account of pain. The day after the operation she passed very quietly. Three deep sutures were removed on the second day, and the clamp on the third day. Copious miliary rash then appeared, and, as there was flatulent distension of the abdomen, a turpentine enema was administered, and followed by relief. On the fourth day a hare-lip pin, which had escaped notice before, was removed, and as the edges of the wound and the tracks of the pins had assumed a sloughy appearance, diluted carbolic acid was applied on cotton wool. As the general condition was satisfactory, this gangrene was explained by the fact that there were two patients with sloughing sores in an adjoining ward. On the fifth and sixth days large shreds of sloughy cellular tissue were removed from between the lips of the wound, and M. Gayet of Lyons, who had carefully watched the case from day to day, was strongly impressed with the value of the practice of uniting the edges of the peritoneum. It was very clear that if they had not been well united in this case, the fetid discharge from the sloughing edges of the wound would have sunk into the peritoneal cavity, and would probably have

proved fatal. Nearly all the slough had separated on the seventh day, and although very free suppuration went on for some time, healthy granulations sprang up, and the patient left the hospital in very good health on August 25. She has since been a domestic servant, and is in perfect health.

CASE XLII.

Cystic and Adenoid Tumour of right Ovary; Twice Tapped; Ovariotomy; Recovery.

ON June 30, 1862, I saw a single lady, forty-nine years of age, in consultation with Dr. Cahill of Brompton. She was in a state of great distress, and we tapped her that afternoon to obtain relief. Fourteen pints of fluid were removed from an ovarian cyst, and great relief was afforded. The history of the disease showed that growth had commenced about four years before, but that the tumour had only risen from the pelvis into the abdomen about eighteen months before, since which time she had suffered a great deal, and latterly the increase had been rapid. On August 16, the cyst having refilled rapidly, I again removed fourteen pints of fluid by tapping, and agreed with Dr. Cahill to perform ovariotomy without much further delay. On September 3 Dr. Parson gave chloroform, and, assisted by Dr. Savage, Dr. Cahill, and Dr. Buchanan of Glasgow, Professor Schuh of Vienna being present, I removed the tumour through an incision six inches long, after separating some parietal adhesions. The pedicle was very short, but was kept outside by a clamp. The left ovary was atrophied. The patient recovered rapidly, went to Worthing five weeks after operation, and has since enjoyed excellent health.

Portions of this tumour looked so very like soft cancer, that I was at first fearful of a return of the disease; but a careful examination, under the microscope, of fine sections made by Dr. Frank, showed that it was identical in structure with the chronic mammary tumour. As the question of priority has been raised, I copy from the 'Medical Times and Gazette' of October 25, 1862, the following report of my description of this specimen at the Pathological Society.

'Mr. Spencer Wells exhibited a specimen of "adenoma of the ovary," which he said he thought the most appropriate designation which occurred to him, although it might be called fibro-epithelioma, or alveolar adenoid tumour. It is identical in structure with the adenoid growths first described in connexion with the mammary gland; and it was very interesting that it should now be found in connexion with the ovary. He had not seen a similar growth in the ovary before, nor had he found it described by any author. A drawing of Dr. Hughes Bennett's, of the structure of chronic mammary tumour, might have been taken from one of the sections shown to the society. The tumour was removed, on the 3rd of last September, from a single lady, about fifty years of age, who recovered perfectly after the operation. It consisted in great part of an ordinary multilocular cyst; but one large cyst was filled with semi-solid matter, which, at first sight, looked exactly like soft cancer; but after hardening in spirit, and examining thin sections, the true character was made out; and it was seen that the surface of the growth was fringed with papilliform villi, its substance showing in vertical sections a delicate fibrous stroma, forming round or oval alveoli. These alveoli are lined with densely grouped epithelial cells, forming a continuous zone, which encloses an area loosely packed with cellular elements of similar form. On the margins of most sections the contents of the alveoli are frequently seen to protrude, like papillæ, through ruptured portions of the fibrous septa; or the lining zone of the alveolus has become liberated and divided, so as to assume the appearance of a long cylindrical band or column of epithelial cells. The tumour, therefore, belongs distinctly to the class of fibro-epithelial growths, and, from the folliculoid character of its alveoli, would, Mr. Wells thought, be most appropriately classed as ADENOMA. This specimen had been preserved in a solution of carbolic acid, which Mr. Wells had found a very cheap and excellent fluid for preserving animal structures.'

CASE XLIII.

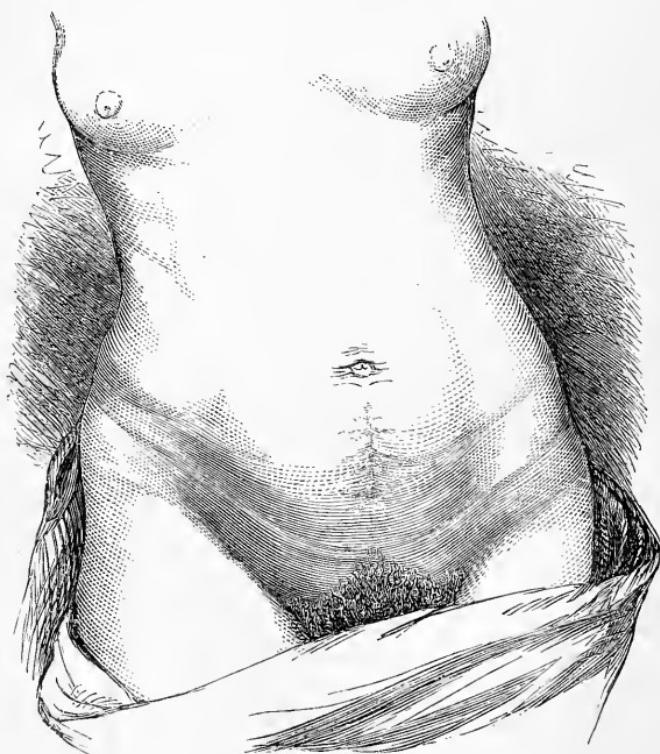
Small single Cyst; No adhesions; Ovariotomy; Recovery; Two years afterwards, suspected Cyst on opposite side.

A DAUGHTER of a labouring man in Yorkshire, unmarried, twenty-four years of age, was sent to me by Dr. Sadler of Barnsley, and was admitted to the Samaritan Hospital on October 2, 1862. She had complained of frequent pains in the abdomen, with rigors and subsequent feverishness, for three years; and had thought her body larger, but was not quite sure of it until the previous November, when a distinct swelling was perceptible towards the right side, which had gone on increasing. Dr. Sadler of Barnsley wrote to me in September, stating that her girth was thirty-four inches, and that he thought the case a very favourable one for ovariotomy. Menstruation had been regular, with occasional leucorrhœa.

On admission, an ovarian cyst was detected, giving the abdomen exactly the appearance of a woman in the eighth month of pregnancy. It was quite movable from side to side. The uterus and pelvis were quite free.

The catamenia, which came on on the day of admission, ceased on the 6th. From the 8th to the 10th she was ill with one of her usual fits of feverishness and abdominal pain. On the 13th she was tolerably well, and the operation was performed. Professors Vanzetti of Padua, Neudörfer of Prague, Esmarch, Claus of Bonn, Braune of Leipzig, and many other visitors, were present. I exposed the cyst by an incision only three inches long, midway between the umbilicus and symphysis pubis. There were no adhesions. The cyst was tapped, and seven pints of fluid were removed. As it became empty she vomited, and the cyst was thus expelled, with some loops of small intestine. She was very faint at this moment, apparently from the effect of the chloroform; so that, as soon as I had examined the other ovary and found it healthy, I returned the intestine, and closed the wound by wire sutures *before securing the pedicle*. This was done by the clamp as soon as the wound was closed by three deep sutures of iron wire, and the cyst was cut away. Superficial sutures were then applied.

There is little to say of the progress of the case after operation, except that at this time I was giving up the use of hare-lip pins, finding that the edges of the wound were more accurately united by sutures, and I was trying the relative value of wires of various thicknesses and different metals. I also began to find that leaving the sutures too long led to suppuration in their tracks without any compensating advantage, and I wished to ascertain how soon they could be removed with safety, provided the abdominal wall was well supported by long straps of adhesive plaster. In this case I removed two of the deep sutures in forty hours and the third twenty-four hours later with the superficial sutures. I removed the clamp on the fourth day. On the next day some uterine discharge (catamenia?) came on, and with it some discharge of dark bloody fluid from behind the slough on the pedicle left after the removal of the clamp. This continued for two days, but did not retard recovery, and she left the hospital in excellent health on November 12. Just before she left, the photograph from which the accompanying wood-cut is copied was taken by Dr. Wright, to show the



appearance of the abdomen with the cicatrix three weeks after operation.

I heard from this patient a year after operation, stating that she was stronger than she had ever been in her life, and perfectly well; but she came to town in July 1864 to see me, having suffered from dysmenorrhœa for the past few months. Nothing was to be discovered by examining the abdomen, but I found a hard inelastic swelling in the pelvis, behind and to the right side of the uterus, and closely connected with it. I wrote to Dr. Sadler, asking him to watch the case, and if necessary to tap *per vaginam*. He wrote to me, September 7, that he did this 'about a fortnight ago, and drew off rather less than a pint of clear, colourless, slightly albuminous fluid, quite unmixed with blood. The tumour in the vagina disappeared entirely. She had a little pain and sickness for two or three days, but the sense of distension was relieved.' Dr. Sadler will carefully watch the result of this treatment.

CASE XLIV.

Multiple Cyst; Twice Tapped; Ovariotomy; Parietal and Omental Adhesions; Recovery.

IN October 1861 a widow, fifty-six years of age, was sent to me by Mr. Jardine of Capel. I detected a large ovarian tumour, but as there were no urgent symptoms I advised delay until the necessity for surgical aid became manifest. She had had three children; the youngest was twenty-one years old. The catamenia were regular till 1856; when they ceased. She first noticed an abdominal swelling in the summer of 1860. Between January and June 1861 the increase was considerable. In the spring of 1862 Mr. Jardine tapped her, and removed two gallons of fluid. It soon reformed, and she was admitted to the Samaritan Hospital in July. I tapped her early in August, and removed twenty-five pints of fluid. When the large cyst was empty, some large groups of secondary cysts could be felt on the left side, extending up under the false ribs, the attachments being apparently loose, and the pelvis free. She was therefore advised to return to the hospital for ovariotomy before a third

tapping was required, and was admitted on October 10. The operation was performed on October 20. Drs. Neudörfer, Claus, Ciuccio, Jungken, &c., were present. Mr. Jardine administered chloroform. I made an incision five inches long, from one inch below the umbilicus; broke down, by the hand, some very extensive, but loose, parietal adhesions; and separated a large piece of omentum, which adhered firmly both to the cyst and abdominal wall connecting them together. I then tapped and emptied a large cyst, removing twenty-six pints of fluid from it, and then withdrew it gradually, with successive groups of secondary cysts. The pedicle was long, and was principally composed of a bundle of large, tortuous, varicose veins. It was secured by a clamp, and the cyst cut away. The uterus was small, and the left ovary atrophied. The omentum was kept on the surface of the abdomen for a few minutes, until slight bleeding from its torn surface ceased, and the wound was then closed by sutures. Wishing to observe any difference between silk and metallic sutures, I passed four deep ones, one of silk, one of iron wire, one of silver wire, and one gilded hare-lip pin, as well as several superficial sutures.

She soon rallied, and complained of pain, which was relieved by twenty drops of laudanum. This was the only medicine given after the operation. She had no more pain, only vomited once, recovered without any unpleasant symptom, and left the hospital on November 11, just three weeks after the operation, in excellent health. With regard to the sutures, I removed them all forty-eight hours after the operation, and found the wound equally well united throughout. The silk suture was removed with the least pain to the patient, the silver wire next, and the iron wire, being harder, caused the most pain in removal. In other operations I had tried horse-hair, and the fine catgut used for guitar-strings; but I was coming to the conclusion that nothing answered so well for sutures, on the whole, as good silk well twisted. It is not till six or seven days after application that any superiority of metallic over silk sutures begins to appear, and before that time they ought to be removed.

I heard from this patient on the second anniversary of her operation that she has remained in excellent health.

CASE XLV.

Ovarian Tumour; Ovariotomy; Death forty hours afterwards; Peritonitis, with Fatty Liver and Enlarged Spleen.

J. D., aged forty-three, single, was admitted under my care in the Samaritan Hospital on October 2, 1862. She had never been very strong, but was as well as usual till June 1861. The catamenia, which had previously been regular, then continued without cessation for a year, and at the end of the year she found her abdomen increasing in size, chiefly on the right side. About three months before admission she was tapped by Dr. Stevens of Christchurch, and about twenty pints of fluid were removed. Fluid oozed away for three days after the tapping. She was, on admission, nearly as large as before being tapped. The legs had been œdematosus before the tapping, and were so still. She had lost flesh lately; had menstruated twice since the tapping, and was expecting a period. Any operation was delayed accordingly; but nothing appeared after waiting three weeks. œdema of the vulva and lower extremities led me not to be very sanguine of success in this case; but as the urine was found to be normal, and nothing could be detected in the chest that was not explained by impeded action of the diaphragm, and mere palliative treatment must have been so useless, I decided to operate, and performed ovariotomy on October 27. I began by an incision extending from an inch below the umbilicus to two inches above the symphysis pubis. The tissues were brawny and œdematosus, and several small vessels bled freely, but none required ligature. On opening the peritoneum five or six pints of clear ascitic fluid escaped, and a firm non-adhering tumour was brought into view. As it seemed that tapping would not be likely to lessen this materially, the incision was extended upwards an inch above the umbilicus, and a large cyst at the upper part was emptied of several pints of reddish-brown fluid by the trochar. An expansion of the left broad ligament over the tumour offered an obstacle to its complete removal; but on separating this by the hand it was all withdrawn without any of the contents having passed into the peritoneal cavity. A clamp was applied to a short pedicle on the right side, and the tumour cut away. Just as I proceeded

to sponge away some bloody serum from the pelvic cavity the patient became very faint apparently from an overdose of chloroform, but she soon revived, and vomited. After removing several fine pediculated cysts from the left Fallopian tube and broad ligament, I closed the wound by six deep and several superficial silk sutures. The clamp and stump of the pedicle were kept outside, although the traction was considerable. It had been observed during the operation that the spleen was very large and hard.

She rallied well, but vomited several times, and a good deal of reddish serum oozed out from around the pedicle. Five hours after the operation, as she complained of a drag on the loins, and irritability of the bladder, and the abdominal wall was much depressed by the pull of the uterus on the pedicle and clamp, I cut away some of the stump which projected beyond the clamp, and tied a ligature tightly below it. I then removed the clamp, allowing the stump and ligature to sink within the abdomen. A good deal of reddish serum then began to ooze away, and continued to do so. She became easier. The pulse was good—90 to 100—and there was no more vomiting. Early next morning twenty drops of laudanum were given, and she had some refreshing sleep, but vomiting recommenced and became very distressing. During the day after operation a great deal of serum oozed from the abdomen; she became restless and depressed; the pulse rose to 110, 120, and 135: she continued to sink during the night, and died forty hours after operation.

On post-mortem examination the cutaneous aspect of the wound was found to be accurately united. There was a great deal of gelatinous serum in the subcutaneous cellular tissue, and a quantity of serum tinged with blood escaped as soon as the peritoneal cavity was opened. The sigmoid flexure of the colon was closely connected to the abdominal parietes on the left side by old adhesions, and a red patch showed where the cyst had been separated from the meso-colon and broad ligament. There was neither blood nor clot in the abdomen. The peritoneal aspect of the wound was firmly united. Several coils of small intestine were adhering to each other and to the abdominal walls around the wound. The pedicle, surrounded by the ligature, was lying, perfectly secured, close to the right side of

the uterus. The left ovary and broad ligament were embedded in a mass composed of loops of intestine firmly adherent to each other, evidently changes of old standing. The liver was considerably enlarged, extending nearly down to the umbilicus, and far over to the left side. It was in an advanced state of fatty degeneration. The spleen was also very large, as were many of the mesenteric glands. The blood which oozed from divided vessels was remarkably thin and fluid, like dark claret. The cause of death, therefore, was extensive diffuse peritonitis of a low form, and was probably due in a great measure to the unhealthy constitution of the patient.

CASE XLVI.

Cystic and Adenoid Tumour; Once Tapped; Ovariotomy; Recovery.

ON August 22, 1862, I saw a single lady, thirty-two years of age, in consultation with Dr. Walshe and Mr. Denne of Winslow. Her health had been failing for two or three years before, but she had not noticed any abdominal enlargement until the beginning of 1862. The whole abdomen was occupied by an ovarian cyst, and it was agreed that she should be tapped. On September 4 I removed ten pints of thick fluid, and found a large group of secondary cysts on the left side. It was therefore arranged that another tapping would be useless, and that ovariotomy should be performed as soon as the emptied cyst refilled, which it did very soon. I operated on November 6. Mr. Clover gave chloroform, and I was assisted by Dr. Savage and Messrs. Lawson and Pierce. There were no parietal adhesions, and I removed a very large cysto-sarcoma through an incision four inches long. The pedicle was on the left side, and very short, so that there was considerable traction on the clamp, depressing the lower angle of the wound close to the sacrum; I therefore tied a ligature tightly behind the clamp, in case this should have to be removed. In uniting the wound I used the telegraph wire—fine copper coated with gutta-percha,—which Mr. Clover was then bringing into use. I also used a silk ligature, and found no advantage in the wire over the silk.

The strain on the clamp led to no unpleasant symptoms; recovery was uninterrupted, and she went a journey of thirty miles into the country three weeks after operation. She has remained in excellent health.

CASE XLVII.

Large Multiple Cyst; Ovariotomy; Prolapse and Removal of Pedicle; Recovery.

ON October 23, 1862, I was consulted by a single lady, twenty-five years of age, with a very large multilocular cyst of the left ovary, of two years' standing, for which she had consulted Dr. Grimsdale of Liverpool, who had said that tapping could be of no service, and that ovariotomy was her only resource. I entirely agreed with him, and performed the operation on November 25. Mr. Clover gave chloroform, and I was assisted by Professor Pirrie of Aberdeen, Dr. Druitt, and Dr. Kumar of Vienna, removing a cyst (after emptying it of thirty-two pints of viscid fluid), and groups of secondary cysts, through an incision four inches long. There were some unimportant adhesions, easily separated, above and to the right of the umbilicus. Professor Pirrie kept the abdominal wall so closely pressed against the cyst as I withdrew it through the opening, that we did not even see the intestines. The right ovary was felt to be healthy. The pedicle was unusually long. She recovered well, but for several days after operation complained of severe pain in the course of the left sciatic nerve, but never of any pain in the abdomen. The pain seemed to be due to a hernia or prolapse of the pedicle behind the clamp, forming a swelling which increased daily after the clamp was removed, from the size of a walnut until it was about three inches in height and four in circumference. On the summit were the remains of the slough, and the peritoneal surface around was covered by flakes of lymph and bedewed by serum which exuded in considerable quantity. The rapid increase in the stump was evidently the result of œdema caused by pressure of the contracting wound. The sciatic pain it caused was becoming so severe and continuous that, on December 1, I placed a loop of wire around

the neck of the prolapsed pedicle, and proceeded to tighten the wire with an écraseur, but the pain thus caused in the thigh was so great that I took away the wire, and, with the kind assistance of Mr. Hulke, who gave her a little chloroform, I transfixated the stump, tied it in two portions, and cut it away. There was some bleeding, which we stopped by a ligature tied below the spot of transfixion. After this, she steadily improved, the sciatica disappeared, she went to Liverpool on December 26, and has since been in excellent health. Dr. Kumar carefully examined the portion of stump, and found in it some very large vessels, and a nerve as large as the ulnar at the wrist, but it was chiefly made up of cellular tissue.

CASE XLVIII.

Multilocular Ovarian Tumour; Two Tappings; Ovariotomy; Recovery.

A. D., married, aged fifty, was sent to me by Dr. Woodhouse of Hertford, and first admitted on March 13, 1862, into the Samaritan Hospital. A multilocular ovarian cyst occupied the abdomen, the girth of which at the umbilicus was forty-one inches. The uterus was pushed over to the left side by a portion of tumour in the pelvis, and was not movable. She was tapped on March 18, and twenty pints of fluid, containing much cholesterine, were removed. Groups of secondary cysts were felt to be movable beneath the abdominal walls after the tapping, but the uterus was still drawn up and pushed over to the left side. She was discharged on March 26. The cyst refilled. She was readmitted on June 23, tapped again, and discharged on the 28th. She filled more slowly, improved in health, and was admitted for the third time on October 13, 1862. Great doubt was felt as to the closeness of the connexion with the uterus, and it was decided to make an exploratory incision, and to be guided by the result. The operation was performed on November 17, 1862. Dr. Greenhalgh administered chloroform. Dr. Robert Lee and many other visitors were present. I commenced by an incision, between four and five inches long, midway between the umbilicus and symphysis pubis. The

abdominal wall was very thin, and the cyst, being covered by a little ascitic fluid, was easily exposed. Some slight parietal adhesions were broken down. A large cyst was tapped, and about twenty pints of fluid withdrawn from it. Finding that the pelvic connexions were not intimate, I separated a very strong adhesion between the upper part of the cyst and the thickened suspensory ligament of the liver. I then opened the large cyst, passed one hand into it, and broke down several inner cysts; the outer one being withdrawn, and the abdominal walls being kept so pressed against it that no ovarian fluid could pass into the peritoneal cavity. After separating a small piece of omentum, the tumour was entirely withdrawn, and the pedicle, which was moderately large, was secured by a clamp. A little serum was sponged from the pelvic cavity. The right ovary was healthy. The wound was closed by four deep and several superficial silk sutures.

She soon rallied, never vomited, had two opiate enemata during the evening on account of pain, and for two or three days was troubled by cough, but she made an excellent recovery, and was discharged in good health on December 10. I removed the clamp and the deep sutures forty hours after operation, the wound being well united. Dr. Woodhouse wrote, on February 21, ‘She continues quite well;’—and I have heard several times since that she has remained in perfect health.

CASE XLIX.

Non-adherent Cyst; Never Tapped; Ovariotomy; Recovery.

SEVERAL times in September 1862 I saw a single lady, twenty-three years of age, in consultation with Dr. Hawksley, who had made the diagnosis of a multilocular ovarian cyst on the left side, although an operating physician-accoucheur had greatly distressed the patient and her friends in June by declaring that she was pregnant. There being no large cyst, tapping was evidently useless, and it was agreed that I should perform ovariotomy as soon as the operation was warranted by the state of the general health, or the urgency of any symptom. The tumour increasing, and dysmenorrhœa being very distressing, Dr. Savage

met us on November 8, and it was decided that I should operate a clear week after the cessation of the catamenial period. On November 15 Mr. Clover gave chloroform, and, assisted by Drs. Hawksley, Parson, and Savage, I removed a non-adherent cyst through an incision four inches long. The pedicle was very short, and the traction on the clamp considerable, but the stump was kept outside. Silk sutures were used to close the wound. There was a good deal of pain on recovery, but it was relieved by an opiate. During the next four days the pulse only varied from 76 to 84, and there was no bad symptom; but she was very hysterical, and complained of a severe sciatic pain at times. This ceased when the clamp was removed on the 20th, and the bowels acted. After this she gradually improved, went to St. Leonard's on December 18, afterwards to Brighton, and has since recovered and maintained perfect health.

CASE L.

Ovariotomy; Pulmonary Congestion; Venesection; Recovery.

E.W., single, aged seventeen years and two months, was admitted on November 13, 1862, into the Samaritan Hospital, with a very large ovarian tumour, dating only from the previous May. She had never been tapped, and was much emaciated. The ensiform cartilage was pushed forward by the tumour, which filled the whole abdomen, the girth being thirty inches. The uterus was far back, but movable; and a portion of the tumour could be felt between the uterus and the bladder, but above the brim of the pelvis, and apparently movable.

Ovariotomy was performed on November 26. Mr. Clover gave chloroform. Dr. Kumar of Vienna, Dr. Burckhardt of Berlin, and other visitors, were present. An incision was made from two inches below the umbilicus for four inches directly downwards. The cyst adhered closely all over the abdominal wall anteriorly. I separated it as far as my fore-finger would reach, tapped, and emptied the cyst. I then introduced one hand, and separated some very firm adhesions around the suspensory ligament of the liver and in the right iliac fossa. As

the cyst was withdrawn, a large piece of omentum was separated from the upper part and kept outside. The pedicle was secured by a clamp, and the cyst cut away. As the omentum did not appear to be healthy, and was much torn, I cut away a large piece and tied four vessels, which bled freely, with very fine silk, cutting off the ends close, and then returning the omentum. The wound was closed by four silk sutures.

She soon rallied and began to perspire; she complained of no pain, but the pulse was 130 at 6 P.M., and 145 at 10 P.M. There was a very troublesome suffocative cough, but no pain. Some four to six ounces of blood had oozed from the surface of the pedicle, which did not seem to be perfectly compressed by the clamp, the cough having disturbed it. I cut away some of the stump to find the bleeding vessel, which I tied, and applied perchloride of iron to the rest of the surface. The loss of blood appeared to relieve the chest, and the pulse, though so rapid, was not feeble. She passed a pretty good night, though the cough was very troublesome at times. The next morning the pulse was 150, not weak. Scarcely any respiratory murmur could be heard in either lung, and the action of the heart was very tumultuous. Perspiration was free, and secretion of clear urine abundant. Some abdominal pain began in the forenoon, and twenty drops of laudanum were thrown into the rectum, after which she slept. During the afternoon the pulse kept up to 150, and at 6 P.M. had reached 160. The lips were parched, and the skin was hot and dry, with occasional suffocative cough. The heart and lungs were evidently oppressed. No blood had been lost at the time of the operation; but a very large tumour had been removed, which had previously received a large supply of blood, and the fluid in the cyst had been formed from the blood. When all this was suddenly stopped, the blood-vessels seemed to contain more blood than the heart and lungs could readily dispose of, although both skin and kidneys were acting very freely. I accordingly opened a vein in the arm, and drew off ten ounces of blood rapidly, stopping as soon as she felt faint. She fell asleep at once, a very profuse perspiration broke out, and within ten minutes the pulse was down to 140. The blood was very much cupped, but the coat of fibrin was not thick.

The pulse gradually fell during the next day from 140 to

130. A little champagne was given occasionally, five grains of carbonate of ammonia every two hours, and the air about the bed was ozonized by iodine; a few grains being placed in chip boxes, the lids of which were replaced by a piece of muslin.

After this recovery was progressive. There was no abdominal pain whatever. She was discharged on December 20, 1860, and has called at the hospital since in very good health.

CASE LI.

Large Compound Cyst; Albumenuria; Ovariotomy; Recovery.

A MARRIED woman, forty-two years of age, was sent to me by Dr. Acland of Oxford, and was admitted into the Samaritan Hospital on December 12, 1862. She had had seven children, the youngest being two years old. The catamenia had been irregular since the birth of this child, the discharge often continuing for three weeks, with only one week's interval. She did not 'go down' after the labour, suffered severely from sciatica on the left side, and was in the Radclyffe Infirmary, Oxford, from March till May 1862, after an attack of peritonitis. After this her size rapidly increased. On admission to the Samaritan Hospital I detected a large multilocular cyst of the left ovary. The girth at the umbilicus was forty-three inches, and the distance from symphysis pubis to ensiform cartilage twenty inches. The uterus was large and soft, but quite movable. The left broad ligament was depressed. She had never been tapped. Albumen was found in the urine, and this proved not to be due to admixture with vaginal discharge, because, after filtration, it was found in the clear urine, and in urine drawn off by the catheter. But as the deposit consisted almost entirely of urates; and no casts, blood, pus, or any other sign of kidney disease could be detected, it was considered that the albumen must be due to pressure only, and was no objection to operation. It appeared, also, that the urine passed in the morning was copious, clear, and free from albumen; while towards night it became scanty, concentrated, and albuminous.

Ovariotomy was performed on December 15. Mr. Clover gave chloroform; Dr. Selin of St. Petersburg, Dr. Acland, Mr

Partridge, Mr. S. Haden, &c., were present. An incision, four inches long, was made downwards from two inches below the umbilicus. The adhesions were so close that it was not easy to make out the exact limits of the cystic and parietal layers of peritoneum. But I did so after a little careful examination, and separated some firm adhesions as far as one finger would reach. I then tapped, and removed a pailful of dark fluid, which contained many lumps of fatty fibrinous matter, which became solid on cooling. The lower part of the cyst was then easily withdrawn, but the upper part was held by a piece of adhering omentum, about six inches square, which was separated, and then by a very firm band of adhesion, which extended above and to the right of the umbilicus. This was separated; a long very narrow pedicle secured by a clamp, and the cyst cut away. One bleeding vessel in the omentum was stopped by torsion. There was rather free oozing of blood from torn adhesions, but no vessel seemed to require a ligature. On examining the right ovary, I found one small cyst on the surface, which burst on pressure, and one distended Graafian vesicle, out of which I squeezed a clot; but, as the ovary seemed to be atrophied, I did not remove it. The wound was closed by deep and superficial silk sutures.

She rallied well, and had a good night; no opium was given, as there was no pain. On the first and second days after operation there was occasional vomiting of watery fluid with greenish mucus, and on the third day there was some sanguineous discharge from the uterus, which was followed by relief. Some of the sutures (silk) were removed in forty hours; and the rest, with the clamp, sixty-four hours after operation. No albumen could be found in the urine after the seventh day after operation, when it was replaced by lithates. She gradually regained strength, was discharged in good health on January 7, and Dr. Acland wrote, on February 20, to say that she was perfectly well. She called at the hospital this summer in robust health.

CASE LII.

Adenoid Tumour and Ascites; Ovariotomy; Recovery.

IN July 1862, I was requested by Dr. Martin of Rochester to see a single lady, fifty-three years of age, and found the abdomen, from an inch above the umbilicus downwards, occupied by a multilocular ovarian tumour. She had been well until about a year before, and the tumour had only been detected about three months before I saw her. As there was no urgent symptom, we advised her to wait. She went on pretty well until October, when she began to increase in size, and early in December the legs became œdematos. I saw her on December 15, and found that a considerable quantity of ascitic fluid had formed around the ovarian tumour, which was about twice the size of an adult head. A nodulated tumour could be felt in the pelvis behind the uterus. This tumour moved freely in every direction with the abdominal tumour. The cervix uteri was normal, and movable independently of the tumour. There was no albumen in the urine, and I advised ovariotomy without delay as the only hope of saving life. Dr. Gream saw her on December 16, and Dr. West on December 17. Both these gentlemen agreed that she could not live a year if left alone, or if the ascitic fluid were removed by tapping; and it was agreed that ovariotomy should be performed. I operated on December 23, 1862. Mr. Clover gave chloroform, and I was assisted by Dr. Savage, Dr. Martin of Rochester, and Dr. Kumar of Vienna. After making an incision five inches long, from an inch below the umbilicus, and allowing about twelve pints of ascitic fluid to escape, a non-adherent semi-solid tumour, of very irregular shape, was exposed. I tapped this in two places with a very large trochar, but the contents were too viscid to escape. Rather than enlarge the incision, I passed my hand into the tumour and broke it up, gradually squeezing it outwards. A short pedicle was secured by a clamp, and the peritoneal cavity very carefully cleansed by sponges from all serum and ovarian fluid. The wound was closed by five silk sutures. Healthy reaction soon came on. She had a comfortable night after one opiate, and went on remarkably well

afterwards. I removed all the sutures forty hours after operation, and the clamp on the fourth day. The pulse remained rapid—100 to 110—for three weeks, but there was no re-formation of ascitic fluid. She returned to the country a month after operation, and I had a letter on March 14 stating that ‘she complains of nothing, and takes her drives and walks, and enters into society as she always used to do.’ I saw her a year after the operation in perfect health, and I have heard lately that she has remained so.

When exhibiting this tumour at the Pathological Society, I showed that it presented all the characters which I had described as ‘Adenoma’ (see Case 42), and said that, although ovarian tumours of this character presented many of the appearances of soft cancer, and resembled malignant tumours in the great rapidity of their growth, yet they offered the important practical difference that they showed neither tendency to invade neighbouring parts nor to return.

CASE LIII.

Multilocular Ovarian Cyst; Prolapsus Uteri, Cystocele and Rectocele; Seventy-two Pints of Fluid removed by Tapping; Ovariotomy; Recovery; Birth of a child fifteen months after.

A MARRIED woman, aged thirty-two, was admitted on December 20, 1862, under my care in the Samaritan Hospital, with a very large ovarian cyst, dating from the birth of her third child six years before. Increase in size was slow for the first four years, but more rapid during the last two years. She had been subject to prolapsus uteri before the confinement, and it became more complete afterwards, being at the time of admission irreducible, and complicated by vaginal cystocele and rectocele. She had been greatly distressed by the abdominal distension, and had kept her bed for six months before admission. The catamenia had been regular as to time and quantity ever since the birth of the last child. The annexed cut, from a photograph by Dr. Wright, gives a good idea of the size of the abdomen. The girth at the umbilicus was fifty-four inches, and the distance

from ensiform cartilage to symphysis pubis thirty-six inches; while from one anterior-superior spinous process of the ilium to the other it was forty inches. I tapped her on December 30, and removed twenty-two pints of clear highly albuminous fluid.



A movable multilocular cyst remained. The uterus was then easily returned. She was feeble for a few days after the tapping, and the fluid began to reform rapidly, but she soon regained strength. On the 18th of January the measurements were—girth thirty-five inches, instead of fifty-four; perpendicular seventeen inches, in place of thirty-six; and anterior seventeen inches, in place of forty.

Ovariotomy was performed on January 19, 1863. Mr. Clover gave chloroform. Dr. Marion Sims of New York, Mr. Macilwain, &c., were present. Owing to the extreme looseness of the integuments, I made the first incision by transfixing a fold of skin, thus making an opening six inches long, down from one inch

below the umbilicus. The peritoneum was opened, as usual, on a director. Some loose but extensive adhesions were separated by the hand. The chief sac was tapped, emptied, and withdrawn; but a mass of secondary cysts, as large as a child's head, made it necessary to enlarge the incision. The whole was then easily withdrawn, a short pedicle secured by a clamp, and the wound closed by one superficial and four deep silk sutures.

She only required one opiate, and went on well from the first. The only peculiarity in the progress after operation was a projection or hernia of the pedicle below the clamp, which went on increasing after the clamp was removed, the prolapsed portion becoming œdematosus. I removed this on the seventh day, after transfixing it and tying it in two halves at the level of the skin. The ligature and slough came away five days afterwards, and she was discharged, in excellent health, on February 17. The union of the pedicle with the abdominal wound acted as a very effectual safeguard against prolapsus of the uterus. She wrote to me on the 11th of April, 1864, to say that she had a son born the day before: 'it is a very healthy child, and I am doing nicely.' I have heard since that she and her son have remained well.

CASE LIV.

Cysto-Adenoma; Never Tapped; Ovariotomy; Death after forty-four hours; Diffuse Peritonitis.

ON January 31, 1863, I saw a single lady, twenty-five years of age, who was suffering greatly from an ovarian tumour which occupied the whole abdomen, and extended beneath the false ribs, pushing them outwards and the ensiform cartilage forwards. The girth was forty-two inches, the measurement from sternum to pubes nineteen inches. I wrote to Dr. Watson (by whom the parents of the young lady had been advised to consult me) stating that I found a large cyst of the right ovary and groups of smaller cysts on the same side; that there was no proof of disease of the left ovary, and that the tension of the abdomen was so great that it was impossible to determine the extent of adhesion. There was no albumen in the urine, nor any proof of any other than the ovarian disease. As tapping could only be of temporary service,

I proposed to make a small incision, and be guided by the extent of adhesion, as to whether I should do more than empty the large cyst; and it was arranged that I should do so. On February 3, Mr. Clover having given chloroform, and assisted by Dr. Savage, Mr. Burton of Dover Street, Mr. Cowell of Piccadilly, and Dr. Kumar of Vienna, I made a small incision midway between the umbilicus and pubes. The large cyst being firmly adherent here, I opened it and allowed its contents to escape before proceeding. A large group of secondary cysts was then felt to be freely movable above and to the right of the umbilicus, and, as the adhesions seemed to be chiefly near the incision, I enlarged it to between four and five inches, separated some adhesions, and passed my hand into the cyst, breaking up the smaller cysts as I gradually withdrew the whole of the tumour, separating a small piece of adherent omentum, and lastly a very firm patch of adhesion in the right iliac fossa. The pedicle was very broad and short, and there was a considerable traction on the clamp, which was fixed outside. The left ovary was healthy. The abdominal cavity was carefully cleansed by sponging. She was restless, and complained of much pain for about two hours after operation, but it subsided after a second opiate, and I was told that she had been in a very similar state some months before, after taking chloroform for tooth-drawing. The skin and kidneys acted freely during the evening; she became easy; the pulse rose to 110, and she passed a good night. The next morning she appeared to be doing well, had not required more opium, and was cheerful; but the pulse had risen to 130. Still, as it was soft and not feeble, I was hopeful. In the afternoon, the urine, which had been clear and abundant, became scanty and concentrated, and there was a return of pain. An opiate was given, and the pain was relieved, but a tendency to vomit came on. At night she became weaker. The pulse rose to 140, and was more feeble. Champagne was given, and a mixture of eggs and brandy thrown into the rectum. Early in the morning she became faint, and a profuse discharge of serum—upwards of a pint—escaped beside the pedicle. Brandy was given freely, both by the mouth and rectum, and she rallied for a time, but afterwards continued to sink, and died forty-four hours after operation. Dr. Kumar, Mr. Cowell, and Mr. Burton were present at the post-mortem examination. There was not

a drop of blood, nor any clot in the peritoneal cavity, but there were evidences of a low form of diffuse peritonitis, shown rather by the effusion of serum than of lymph. Two or three coils of small intestine were united together by recent lymph. The process of repair had commenced by a coating of lymph on the surfaces where the adhesions had been separated, and the peritoneal edges of the wound were well united. There was a little bloody serum in the sub-peritoneal tissue of the uterus and left ovary, and a small adherent cyst (ovum?) obstructed the canal of the left Fallopian tube. On the right side the broad ligament and Fallopian tube which had formed the pedicle were firmly secured.

On reflecting upon this case, I can see no reason to regret that the operation was performed; while, if the patient had been allowed to die a few weeks or months later of the natural progress of the disease, there would have been great reason to regret that the effort to save her life had not been made. The true lesson it appears to teach is, not to delay the operation too long, nor waste time in useless or merely palliative treatment.

CASE LV.

Ovarian Cyst; Tapped three times; sixty-four, seventy-two, and sixty-nine Pints; Ovariotomy; Recovery.

A MARRIED woman, aged fifty-six, was admitted on January 17, 1863, to the Samaritan Hospital, having been sent to me by Dr. Williams of Rugeley, as a fit case for ovariotomy. She had only been married four years, and had noticed an abdominal swelling on the right side about a year before marriage. The swelling increased, and she was tapped in July 1861, sixty-four pints of fluid being removed. She was not tapped again for eleven months, namely, June 1862, when seventy-two pints were removed. She was very low for a time after each tapping, and soon began to fill again. On admission, the girth at the umbilicus was fifty-seven and a half inches; ensiform cartilage to umbilicus, fourteen and a half inches; umbilicus to symphysis pubis, twenty-nine and a half inches; right anterior-superior spine of ilium to umbilicus, nineteen and a half inches; left,

an inch less. She was tapped, and sixty-nine pints of fluid were removed, the girth being lessened from fifty-seven inches to thirty-four, and the distance between sternum and pubis from forty-four to fourteen. The skin fell into loose folds, and the oblique muscles, hypertrophied by carrying so much weight, were felt as thick bands on either side. No secondary cysts could be felt.

It was not till a considerable quantity of fluid had re-collected, that it was possible to say whether there was an ovarian cyst or not; but at length there was very marked dullness in the right loin, and equally well-marked resonance in the left, which led me to the diagnosis of a tumour of the right ovary.

Ovariotomy was performed on February 9, 1863. Dr. Parson administered chloroform. Drs. Williams of Rugeley, Duke of Chichester, Hoffmann of Margate, &c., were present. An incision, four inches long, was made midway between the umbilicus and symphysis pubis. Extensive and rather firm parietal adhesions were broken down, the cyst tapped, emptied, and withdrawn, the pedicle secured by a clamp, the cyst cut away, the left ovary found to be healthy, and the wound closed by deep and superficial silk sutures, after tying three superficial vessels divided in the first incision.

She rallied well, had two opiate enemata during the evening on account of pain, and for three days was troubled by cough and viscid expectoration. The bowels acted on the fifth day after an enema. From this time she went on perfectly well, only complaining of occasional flatulence, and returned home on March 7.

In this case, as in Case 53, I adopted the practice of tapping two or three weeks before doing ovariotomy. I had some doubts as to the wisdom of the practice, but it answered well in these cases. In both, the distension was very great; and I feared that the sudden removal of so much fluid at the same time as the cyst would be too much for the patient. The tapping was also useful in clearing up doubtful points of diagnosis. The obvious objection to this practice is the danger of the tapping itself being followed by changes which might eventually preclude ovariotomy.

CASE LVI.

Large Semi-solid Ovarian Tumour; Tapping; Suspicion of Phthisis; Ovariotomy; Recovery.

AN unmarried shopkeeper, aged thirty-six, was sent to me by Dr. Acland of Oxford, in January 1863, with a very large multilocular ovarian cyst. She measured forty-eight inches round the body at the umbilicus, thirty-one inches from one ilium to the other, and twenty-four inches from sternum to pubes. Increase in size had commenced about two years before, and during the last few weeks had been very rapid. She returned to Oxford, and I wrote to Dr. Acland suggesting a preliminary tapping. She was tapped on February 1, and thirty-six pints of fluid were removed. Dr. Acland wrote to say: 'There remains a large partially-solid mass, not readily movable. The poor creature's fate is sealed without the operation.' She was accordingly admitted to the Samaritan Hospital on February 27, and I performed ovariotomy on March 2. Dr. Jottrand of Brussels, Mr. Partridge, and many other visitors, were present. The incision was six inches long, from one inch below the umbilicus. The cyst was universally adherent anteriorly, but it was easily separated. The adhesions of the solid mass on the left side were very firm, and considerable force was required to break them down. After emptying the large cyst, the tumour was gradually withdrawn, and a long pedicle on the right side secured by a clamp. The left ovary was healthy. The peritoneal cavity was carefully cleansed by sponging, and the wound closed by silk sutures, after securing a group of oozing vessels in a cellular band of adhesions, and tying them to the clamp. The patient rallied tolerably well, but reaction was rather deficient all the evening. At night, finding some oozing of viscid bloody fluid around the pedicle, I applied a ligature tightly beneath the clamp, as this did not seem to compress the pedicle perfectly. After this she passed a good night. One opiate enema was given and repeated, and no more were needed. The clamp was removed on the third day after operation. The bowels acted on the fifth day; and, although she was a feeble nervous person, and a free purulent discharge went on till the

ligature on the adhesion separated, she recovered well, and has been seen and heard of since she left the hospital, as enjoying excellent health.

Dr. Jottrand visited this patient several times after the operation; and, in a pamphlet which he published at Brussels in 1863, entitled '*Notes sur l'Ovariomie recueillies pendant un séjour à Londres*'—after describing the operation, he makes the following remarks upon the state of the patient afterwards; and I translate them here, because they express remarkably well the feelings of wonder which foreigners and other friends who witness ovariotomy for the first time express, when they see the patient a few hours afterwards suffering so very little.

Dr. Jottrand says: 'The patient was carried to bed while still under the influence of chloroform, the vapour having been given as required throughout the operation. The whole lasted twenty minutes. The next morning, fifteen hours after the operation, the patient was perfectly calm, lying quietly in her bed, with a smile on her lips, a lively and cheerful expression, not suffering, and hardly having suffered, pain. She had had six hours of good sleep during the night. Her pulse was regular, moderately full, at 94. The skin was moist and of normal temperature, the tongue moist and rosy, the abdomen painless and flat. She had some appetite, and barley-water was given. This state of tranquillity and calm, which ordinarily follows these operations, is certainly one of the most astonishing phenomena which can be witnessed, and that which strikes most forcibly any one who has not observed a case before. The peritoneum, which has always been considered to be endowed with such sensibility that we trembled to touch it, for fear of the most formidable and frequently destructive symptoms, is here cut, laid bare, sponged, rubbed in all directions, and all at the cost of a little pain which is combated by opium—or of some vomiting which yields under the influence of some iced drinks. In this case, two enemas, each containing twenty drops of laudanum, were used during the night after the operation. They were sufficient, as we have seen, to procure a good night. Some ice which the patient had sucked had also stopped the vomiting, which only occurred twice. Forty-eight hours later the sutures were removed. Union by first intention had been obtained throughout the whole extent of the wound. On March 5 the pulse was

more rapid and feeble ; there was slight febrile reaction, probably indicative of eliminatory suppuration set up around the pedicle. This feverishness disappeared when suppuration was established. After this, nothing particular occurred ; and when I saw the patient for the last time, on the eve of my departure fifteen days after operation, she might then be considered as cured. Nothing remained but a small suppurating surface, about the size of a centime, and of very satisfactory appearance, at the spot where the pedicle had been secured.'

This was one of several cases in which tubercular disease of the lung has been suspected or demonstrated, and has had to be considered before deciding upon ovariotomy. This patient's father died of phthisis, and Dr. Parson, who examined her chest very carefully, suspected 'some tubercular infiltration into the right lung.' The right side of the chest was larger and duller than the left, there was greater vocal resonance, greater fremitus, with longer and rather whiffing expiration. We hoped that this might be due to mere condensation of the lung, by the tumour pressing the liver upwards and interfering with the action of the diaphragm—and the event justified the hope.

CASE LVII.

Piliferous and Dentiferous Cyst; Twice Tapped; Ovariotomy; Recovery.

ON the 23rd and 27th of February 1863, I saw an unmarried mulatto lady from Jamaica, in consultation with Dr. Hare, who had made the diagnosis of a multilocular cyst of the left ovary. The early symptoms of the disease had commenced when she was about eighteen years of age, but it was not until the autumn of 1861 that any increase in the size of the abdomen was observed. In February 1862 she was tapped, and seven pints of fluid were removed. She was relieved for a time, but was tapped again in September 1862, when fourteen quarts of fluid were removed, and a hard movable tumour was left. She filled again rapidly, and when I saw her with Dr. Hare she was larger than she had ever been before. The girth was forty-six inches ; from sternum to pubes twenty-six inches ; and thirty-one inches

from one ilium to the other. She was very unwilling to be tapped again; and, as I considered the case to be a fairly favourable one for ovariotomy, it was decided that the operation should be performed. It was done on March 9. Dr. Parson gave chloroform, and I was assisted by Dr. Druitt, Dr. Savage, and Mr. T. H. Smith. The incision extended five inches midway between the umbilicus and symphysis pubis. The cyst was firmly adherent there, and I opened it and allowed the contents to escape before exposing the peritoneal cavity by separating any adhesions. When the cyst was empty, careful examination was necessary to make out the exact line of demarcation between the cyst and parietes, and it was necessary to separate some very firm and extensive adhesions. When this was done, I passed my hand inside the large cyst, and broke up a number of smaller cysts, pressing out quantities of hair and fat, and then withdrew the whole of the tumour, Dr. Savage assisting by steady pressure on the parietes, which he kept closely applied against the cyst as it escaped. The pedicle was secured by a clamp, the left ovary found to be healthy, the pelvic cavity thoroughly cleansed by sponging, and the wound united by silk sutures and supported by plaster. A loose shred of vascular tissue, which hung loosely from the abdominal wall on the left of the incision, was brought out beside the pedicle, tied, and cut away. It consisted of a portion of the cyst wall, and of some organised fibrine, which had been the medium of connexion between the cyst and the parietes. There were forty-six pints of fluid collected, and the cysts weighed four pounds. Some of the smaller ones contained hair, and several teeth grew from the lining membrane of two of them. The patient soon rallied after the operation, did not vomit once, and had a good night after one opiate. A return of pain on the fourth day led to a second opiate, and this was the only medicine given, except a teaspoonful of castor-oil on the sixth day, which was followed by easy action of the bowels. Dr. Hare called upon her on March 23, and found her sitting up in an arm-chair, convalescent. He and I have both seen her since, and she has enjoyed excellent health.

CASE LVIII.

Piliferous Ovarian Cyst ; Never Tapped ; Ovariotomy ; Recovery.

E. C., unmarried, aged 36, admitted on March 13, 1863, under my care, in the Samaritan Hospital. She had been an out-patient under Dr. Rogers, occasionally, for about two years, the abdominal enlargement having commenced about four years ago. She had been obliged to give up a situation as housemaid, and had been dressmaking. She had been admitted twice before for a few days under me, and had been advised to wait until there was clearly a necessity for surgical interference. At length she became subject to severe pains in the left side, was unable to earn her living by the needle, and was admitted for operation. The diagnosis made on March 14 was 'multilocular cyst of left ovary. No parietal adhesions.' The girth at the umbilicus was thirty-five inches; measurement from sternum to pubes seventeen inches. I performed ovariotomy on March 16. Dr. Jottrand of Brussels, Dr. Gream, Mr. Partridge, &c., were present. Dr. Parson gave chloroform. An incision, five inches long, was made from the umbilicus downwards; the parietes were very thick and vascular, the recti and adipose layer both very thick. The cyst was quite free anteriorly. One large cyst was emptied, and then the whole tumour passed outwards, with some assistance from pressure. A small clamp was applied on the pedicle on the left side. The right ovary was healthy. There was some oozing of blood from superficial vessels, but none were tied, and the wound was closed in the usual manner, by four deep and several superficial silk sutures. Two small opiates that evening, and one on the third day, were the only medicines required. The remains of the pedicle became quite dry, and adhered so firmly to the clamp that it was not removed till the eighth day. All the sutures were removed forty hours after operation. The bowels did not act till the eleventh day. The catamenia came on at the usual time, and had passed off on April 7, without any escape by the cicatrix, although it was not quite firm at the lower part. She rapidly gained strength, and left the hospital on April 13 in excellent health.

It is very curious that as in all my cases of ovariotomy I have only met with two cysts in which hair or teeth were found, this and the case last described (Case 57) should have occurred together. In both cases the hair grew, as shown in the annexed cut, from the inner wall of the cysts, and hung into the cavity, where it was matted together with masses of epithelial cells which had undergone fatty degeneration. The hairs had distinct bulbs and grew from follicles. Many of them were shed,—indeed, only a small proportion retained their connection with the cyst wall.



CASE LIX.

Ovariotomy; Uterine Epistaxis; Pelvic Haematocele; Vaginal Tapping; Pyæmic Pleurisy; Death twenty-six days after Operation.

IN February 1863 I was consulted by a patient twenty-six years of age, unmarried, whose abdomen was filled by a multilocular ovarian cyst, without attachments to the abdominal walls. The uterus was high up and pushed to the left side by a semi-solid tumour to the right of it, which appeared to be movable. The catamenia were regular, and always had been. The disease had commenced in December 1861, with some pains low down, especially on the left side; but it was not till May 1862 that swelling of the abdomen was noticed. She was ‘treated for liver.’ In September 1863 she consulted Dr. George Cooper of Brentford, who detected ovarian disease, which had steadily increased, especially for two months before I saw her. I communicated with Dr. Cooper, and received from him a letter containing the following extract, which appears to me of great value, as it comes from one who has passed a long and useful life in the study and treatment of disease.

‘I have tapped patients again and again for ovarian dropsy

but after half-a-dozen tappings they always die. If this young woman is about to be married, in my humble opinion she should undergo ovariotomy before her health gets undermined by chronic disease and useless remedies, and this opinion I shall give to her mother. I had given up useless treatment, having tried mercurials, iodine, and diuretics, without producing any absorption. Her health is now very good, with the exception of the ovarian dropsy; and I think, under the circumstances, the operation ought not to be too long delayed.'

Fortified by this opinion, I operated on March 16, 1863. Dr. Parson gave chloroform, and I was assisted by Dr. Cooper and his son, Dr. Savage, and Mr. Wood of King's College. A non-adherent cyst was exposed by an incision in the ordinary situation, six inches long. One large and several smaller cysts were successively tapped, emptied, and withdrawn, and a very broad short pedicle on the right side was secured by a clamp. The left ovary was healthy. The wound was closed by silk sutures. As there was considerable traction on the clamp, I transfixated the pedicle close behind it; and tied the pedicle in two halves, in case it should be necessary to relieve the traction by removing the clamp.

She went on admirably well for twenty-four hours, with but little pain and no sickness; but in the afternoon of the day after operation she became uneasy; there was much flatulent distension of abdomen, the pulse got up from 90 to 130, and the clamp was deeply drawn backwards, depressing the lower part of the wound; so that, thirty hours after operation, I removed it. The stump and ligature at once sunk inwards, and there was a slight discharge of bloody serum. During the second day after operation, the chief complaint was of restlessness and flatulence, but the pulse all day was 130 to 140. The knots on the ligature had quite sunk out of sight. There was some improvement on the third day, the pulse fell to 120, the bowels acted, and uterine epistaxis came on. This was the 27th of March, and it is not probable that the discharge was menstrual, as she had always been regular, and the last period had ceased on the 14th. On the fourth day she seemed better, but was feverish and hysterical. On the fifth day there was a very free, dark, serous discharge beside the pedicle, and a good deal of tympanites; but the pulse had fallen to 104. On the morning

of the sixth day she felt better, had appetite for the first time since the operation, the tongue was cleaner, pulse 116, but the discharge was very free. In the afternoon some fluid faeces passed, she vomited twice, and there was a free discharge of bloody serum through the dressing over the wound. On changing the dressing, I found that the skin was not united, but the edges gaped widely, and the fat and subjacent tissues bulged up between them; but the peritoneum seemed completely closed. On the seventh day, she seemed better, but had three or four loose motions. I reunited the edges of the skin by sutures. On the ninth, tenth, and eleventh days she looked and felt decidedly better; the discharge was more purulent, but still fetid; and the bowels acted several times daily. As this diarrhoea seemed to give relief, I did not check it. On the twelfth day I found her looking very ill, with a suffocative cough, bluish lips, shrunken hands, dusky skin, and pulse again up to 120. On examining *per vaginam* I found a soft swelling behind the uterus, which was pushed forward and upwards. The swelling could also be felt through the rectum. I pushed a straight trochar into the most projecting point of this swelling in the vagina, which was close behind the uterus, and removed a pint of serum, with blood and some pus, not at all fetid. She seemed better after this; but at night she had several mucous stools, and the urine was very scanty and ammoniacal. The ligature on the pedicle and a large shred of sloughy tissue came away together. *Thirteenth day:* still looks ill, but better; pulse fell to 112 and 104; urine freer; free suppuration from wound. *Fourteenth day:* more feverish; pulse 120; frequent action of bowels continues; urine free, but again ammoniacal; vagina hot, and with a soft boggy swelling behind uterus. *Fifteenth day:* Wound still disunited, although the peritoneal cavity is perfectly closed; in the afternoon, a copious discharge of fetid pus escaped by the vagina, and continued; she felt much better after it. Urine still ammoniacal. *Sixteenth day:* Much better; purulent discharge very free by vagina, less so from wound; diarrhoea ceased. *Seventeenth day:* Improving; discharge, both from wound and vagina, lessening. *Eighteenth day:* Some return of cough and feverishness; an injection brought away a large quantity of mixed hard and soft faeces. *Nineteenth day:* Not looking so well; pulse 120; less discharge, both

from wound and vagina, but it has not stopped; uterus returning to its natural situation; opening made by trochar easily felt behind it; no apparent accumulation in Douglas's space; wound looking glazed; ordered a grain of quinine every four hours. *Twentieth day:* Pulse 120; aspect thin and hectic; cough and viscid sputum; no discharge either by vagina or wound. *Twenty-first day:* Pulse 120—130; mucous diarrhoea returning; the catamenia came on. *Twenty-second day:* Pulse 128—135; I examined carefully, both by rectum and vagina, but could detect no fluid in the pelvis; the wound, still united, had a glazy red appearance; some pain under left axilla. *Twenty-third day:* Cough still worrying her, Dr. Hare saw her with me, detected slight friction sound to left of heart, and advised four leeches and a poultice; but, as the respiration was only 20 while the pulse was 150 in the minute, it was clear that the chest affection was secondary and comparatively unimportant. The leeches relieved the pain. *Twenty-fourth day:* Very low; pulse 140-160; copious perspiration, tympanites, cough and mucous rales; sordes on teeth; very drowsy; mucous diarrhoea; stools pass almost involuntarily; plenty of urine. Feeling that the lodging or the room might be at fault, I had her taken home in an invalid carriage. About two hours before she started, there was a copious discharge of fetid pus from the rectum; she reached home (six miles), and seemed revived by the change. *Twenty-fifth day:* She looked decidedly better. Mr. Cooper had repeated three leeches to the chest, as the pain had returned; there was slight discharge, both from vagina and rectum; pulse 140, but less full. In the evening, same pain in the chest returned, she became drowsy, and gradually sank and died on the afternoon of the twenty-sixth day.

I examined the body with Mr. Cooper, two days after death. There were old adhesions of the right pleura, and both old and recent of left. About three ounces of red serum in the pericardium. Small intestines inflated. No sign of general peritonitis. A long band of omentum adhered to the inner surface of the wound. This surface was quite closed, but the divided edges of skin were disunited. The pedicle formed a firm connection between the united wound and the right side of the uterus. The left ovary was healthy. At the bottom of Douglas's space, there was a cavity containing three or four ounces of pus,

and lined by a layer of dark coagulum. Below, it was formed by the peritoneum passing from rectum to vagina; and above, it was shut off from the general peritoneal cavity by a sort of roof, formed by adhering folds of small intestine, sigmoid flexure of colon, rectum, and posterior surface of uterus. The opening which I had made into this cavity from the vagina was quite closed. I regretted very much that I had not made it freer, and kept it open,—a practice which I afterwards adopted in Case 101, with signal success.

This and other cases in which I have been obliged to leave the tied pedicle inside from the first, or have been obliged to allow it to sink inwards afterwards, have convinced me that gravitation of fetid fluid from the sloughing end of the pedicle to the most depending part of the peritoneal cavity, is by no means unlikely; and, when it occurs, we have some form of pyæmia or septicæmia to deal with, characterised by rapid feeble pulse, dry hot skin, urticaria or roseola, coated tongue, ammoniacal urine, mucous diarrhoea, and, in the later stages, pyæmic pleurisy or pneumonia. Locally, the bulging in Douglas's space is detected by one finger in the rectum, and the other in the vagina; but fluctuation will only be detected when the peritoneal adhesions complete the cavity which encloses the pus or blood. When either of these fluids can freely recede before the pressure of the finger, instead of fluctuation, there is a boggy sensation, like pressing putty, which is very characteristic. The blood found mixed with the pus or serum in all probability comes from the uterus through the divided end of the Fallopian tube. Uterine epistaxis is almost always the forerunner of this condition. When the pedicle is outside, the clamp removed, and the wound not closed, a bloody discharge from the pedicle almost always accompanies the vaginal discharge—even after the wound is perfectly closed. I have known a little discharge, at each menstrual period, for three or four months, in at least five cases. So, when the pedicle is inside, the ligature is separating, and the Fallopian tube not closed, bloody discharge from the uterus can hardly go on without some escape into the peritoneal cavity. A free opening into the vagina should be made and maintained, as soon as the existence of fluid is detected. Further examples of this condition may be found in Cases 36, 39, 81, 101, and 103.

CASE LX.

Ascites; Tapping; Exploratory Incision; Refilling; Removal of Small Ovarian Tumour; Death.

A MARRIED woman, twenty-six years of age, was first admitted to the Samaritan Hospital under my care, on December 22, 1862, with considerable enlargement of the abdomen from fluid which was evidently free in the peritoneal cavity. She had been married eight years, and had one child seven years old; none since. The catamenia had been quite regular and without pain until the spring of 1862, when there was pain at each period, extending round from the right iliac region to the back. Soon after the first severe attack of this pain the abdomen began to enlarge, and she suffered from dysuria for about three months. The abdomen increased in size, and she was tapped in the London Hospital in October 1862, sixteen pints of fluid having been removed. She was bandaged tightly for three weeks after the tapping, but the fluid soon began to collect again. I tapped her in December, and removed twenty-nine pints of clear fluid. There was nothing in the nature of the fluid to decide whether it was ascitic or ovarian. The patient left the hospital on January 10, 1863, and returned again in February with the abdomen full of fluid. It still seemed to be free in the peritoneal cavity, but as the uterus, though movable, was rather low down, the cervix large and pushed to the left side, and there was marked dulness in the right loin, it was thought that there was disease of the right ovary, although nothing could be felt through the abdominal wall anteriorly. Accordingly, an exploratory incision was made on February 23, and, after removing twenty-six pints of clear fluid, a growth about the size of a small cauliflower was found to occupy the place of the right ovary. Nothing more was done, and the wound was closed. It healed by the first intention, and the patient recovered without a bad symptom. Dr. Jottrand was present at this exploratory incision ; and, as the opinion of an intelligent observer is always valuable, I translate the following extract from the pamphlet which I have already quoted : 'In this case,' he says, 'we had to deal with a tumour of the right ovary, floating in a considerable quantity of ascitic fluid, which

was probably the result of the peritoneal irritation, kept up by the prolonged friction of the ovarian tumour. The patient, when she was admitted into the Samaritan Hospital under Mr. Wells's care, was thirty years of age, of a lymphatic temperament; and her constitution, originally good, had already been enfeebled by the disease under which she was labouring. An incision was made, so as to allow the ascitic fluid to escape, and expose the tumour. It was hard and solid, of an adenoid nature, and about the size of a foetal head. It was attached to the uterus by a short wide pedicle. Its nature and comparatively small size did not render its immediate extirpation necessary; and as, on the other hand, its very close uterine connection made such an operation dangerous, it was determined not to perform it. The tumour was left in the abdominal cavity; and, after all the ascitic fluid had been allowed to escape, the wound was closed with silk sutures and straps of plaster; cotton wool was laid over these, and kept in position by a flannel bandage. The after-treatment was that usually adopted after ovariotomy. The operation was performed on Monday, the 23rd February, at two o'clock in the afternoon. I saw the patient again on the 25th; that is to say, forty-eight hours after the operation. She was then as well as possible: there was no pain, the abdomen was neither tympanitic nor tender, and the patient had slept well during the night. The skin was moist and moderately warm; the pulse regular and of normal strength, 96 per minute; the tongue moist and clean. The stitches were removed, new straps of plaster were applied, and the dressing completed as before. Two attacks of vomiting, and a little pain a few hours after the operation, were the only accidents that had to be contended against. Iced drinks, and two injections containing laudanum, put an end to them. I saw the patient several times afterwards. Nothing remained to remind her of the operation but a small linear cicatrix in the mesial line.

' In this case, it is evident that it would have been better not to have operated at all, had it been possible to diagnose with certainty the precise conditions of the tumour. But could this certainty be attained without opening the abdomen? The great experience and well-proved knowledge of the operators in this and another case which I have related is sufficient to prove that, in this case, nothing short of opening the abdomen could

possibly lead to a perfect knowledge of the state of the diseased organs. The obscurity which, according to all writers on the subject, often surrounds the diagnosis of ovarian disease, renders errors of this description inevitable, and therefore excusable. Besides this, the operation had no ill effect on the patient; and it allowed the surgeon—in the first place having found out the exact state of affairs—to give a certain prognosis; and, secondly, to be better informed as to the suitable treatment in future.

* * * * *

In the case upon which we are commenting, the diagnosis was rather obscure. Had we to deal with one very large cyst and a mass of smaller ones, as is frequently the case, or was it a hard ovarian tumour, floating in a considerable quantity of ascitic fluid? In either case, simple tapping would not allow a certain diagnosis to be made. The ascites, as it did not result from the organic causes which most frequently produce it, was not to be admitted without dispute. The large cyst, if it were one, when emptied, would allow other groups of cysts to become apparent, whose real character would be difficult to establish. In either case, the evacuated fluid might return, without there being a possibility of determining whether it were secreted from the peritoneum or from the lining membrane of an ovarian cyst. What treatment was to be adopted? Repeated simple tappings? But this could only be palliative; and, if often repeated, lead to new dangers. An injection of iodine? That would be excessively dangerous if the case turned out to be ascites; and, if a cyst, might prove useless; for, even supposing that it had succeeded in obliterating the principal cyst, the smaller ones would have increased in size and rendered a new operation inevitable. Tapping followed by injection of iodine, always slightly dangerous, was to be absolutely rejected in this case, on account of the doubts as to the diagnosis. Nothing was left for it but an incision. That would resolve the doubt; and, at the same time, it was the first step towards curative operation. Besides this, the operation is not of so serious a nature as might be supposed. The very case under consideration, along with others, pleads in its favour, and corroborates what other observers had begun to establish.'

To return to the history of the case—the ascitic fluid recollects rapidly; and it became a question whether the tumour should be removed, or tapping repeated. It was known that the

ovarian tumour was small, and its attachment broad; but the prospect of repeated tapping was so hopeless, that I complied with the earnest desire of the patient to have the tumour removed, and performed the operation on March 31, although I felt that it would be a more prudent course to be content with such prolongation of life as could be gained by tapping. Union of the incision made on February 23 being complete, the lower half was included in the incision at this second operation, and it was carried an inch nearer to the pubes. An opening was made just large enough to admit the hand, midway between the umbilicus and symphysis pubis—the ascitic fluid was allowed to escape—and the ovarian tumour was drawn forwards with the intention of placing a ligature round its base. But it broke away completely from its attachments, and there was free bleeding, mostly venous. There was no pedicle, the diseased ovary preserving its natural relations with the uterus, but having a broad base of attachment between the posterior surface of the uterus and the cæcum, following the course of the right spermatic vessels where they cross the psoas muscle. Both artery and vein were tied by a silk ligature, the ends of which were cut off short, and the knot allowed to remain within the abdomen. The bleeding then ceased, the abdomen was carefully sponged, and the wound closed. The patient rallied fairly after operation, and did not suffer pain; but vomiting became troublesome. She seemed pretty well all the next day; but on the second day vomiting became urgent and exhausting, and she died fifty-four hours after operation, apparently exhausted by the vomiting and the rapid formation of serum in the peritoneal cavity. On post-mortem examination, about forty ounces of dark red serum and two ounces of blood-clot were found in the cavity; a little recent lymph showing slight peritonitis. There were some old adhesions between the left broad ligament and colon, thickening of the capsule of the liver, and fatty degeneration of this organ. There was a thrombus in the enlarged right spermatic vein, extending about an inch above the spot where the ligature remained firmly tied. The tissue included in the ligature was dead and fetid, the dead portions probably weighing about half a drachm. There was no evidence of any process of attempted capsulation, or covering up of the ligature and slough by any effusion of lymph.

CASE LXI.

Ovariotomy at the age of Sixty-one; Recovery; Death four months afterwards.

A MARRIED woman, sixty-one years of age, mother of six children, the youngest of whom is eighteen, was sent to me in March 1863, by Dr. Giles of Oxford. A large multilocular ovarian cyst filled the whole abdomen from the sternum downwards. It had only been of two years' growth, and the increase of late had been rapid. The girth at the umbilicus was thirty-eight inches, and it was eighteen inches from sternum to pubes. It was evident that ovariotomy was her only resource; and, as she was in good spirits, and the general health still unbroken, it was decided that her age alone was not a sufficient reason for refusing to make the effort to cure her. She was admitted on April 8, 1863, into the Samaritan Hospital; and the operation was performed on the 13th. Dr. Parson gave chloroform. Dr. Giles of Oxford, Dr. Llewellyn Williams, &c., were present. After exposing the cyst by an incision from the umbilicus five inches downwards, some very firm parietal adhesions were separated, and a large cyst was emptied. As it was withdrawn, a long coil of small intestine was found to be adhering to it by its mesentery. This was carefully separated, and it was then found that the proper pedicle could not be safely separated from the caecum above or the bladder below; the clamp was accordingly placed round the neck of the cyst rather than on the pedicle. A little blood which had escaped from the torn adhesions was then sponged away, and the wound closed by silk sutures. She had three opiate enemas during the night on account of pain, but was very comfortable all the next day, without pain or vomiting. On the third day the clamp was removed; and on the fifth day the upper sutures. The lower sutures were left two days longer, as they appeared to prevent the surface of the pedicle from sinking into the abdomen. Some delay in the healing process was caused by these two lower sutures producing a slough; but recovery went on very satisfactorily. The bowels acted freely on the tenth day, and continued to do so without pain, occasionally assisted by injection of warm water. The note on May 9

was—‘Convalescent; sitting up; still a slight purulent discharge from lower angle of wound.’

On the 18th she left the hospital. The fluid and solid portions of the tumour removed weighed together thirty-seven pounds.

On June 4 Dr. Giles wrote to me to say that she had gone on well since returning home, and was ‘able to be about.’ I heard from him again in the autumn, stating that she died on August 3, 1863; and that, until six weeks before her death, she had been progressing very favourably, but feeling weak. ‘The wound had almost healed. A small point at the lower part remained a mere superficial sore, and no matter came from the deeper parts. The bowels continued to act fairly; and only occasionally was she obliged to use the enema. She began to walk a little; when, one day, after riding out in a chair without springs, she walked up a steep ascent to call on a neighbour. A few days after this she had vomiting, and then began to feel a sharp pain in the right groin, and the bowels became relaxed. She took to her bed again, and I saw her two or three days after. On examination, I found a hard nodulated mass, very painful, which I had not felt before, although I had frequently examined her. It extended, irregularly, from the upper edge of the cicatrix to a point close to the ilium, and was about the size of the palm of the hand. I began to suspect malignant disease. The hardness increased rapidly from this time, and extended round the upper portion of the cicatrix, and also to the left side. Peritonitis set in; and she died in six weeks from the time of her going out. We found a large carcinomatous mass, matting together the intestines and all the tissues in the iliac region on the right side; on the left, the same deposit, with cysts of gelatinous fluid and hard scirrhouss masses occupying the site of the *left* ovary. The disease, no doubt, began on the right side, from the remains of the cyst left adhering to the cæcum. There was general peritonitis, and the small intestines were covered in places with the same deposit. The uterus was quite free from disease, as well as the kidneys. We did not examine further.’

CASE LXII.

Non-adherent Cyst; Never Tapped; Ovariotomy; Bronchitis; Venesection; Recovery.

S. B., unmarried, aged nineteen, was sent to me by Mr. Rumsey of Cheltenham, as a very favourable case for ovariotomy. The abdomen was filled by an ovarian cyst, nearly unilocular, free from adhesions, and she was otherwise healthy. The girth at the umbilicus was thirty-six inches, and the distance from sternum to pubes sixteen inches. She was admitted on April 17, 1863, into the Samaritan Hospital, and the operation was performed on the 22nd—a week after the cessation of the catamenia. Dr. Parson gave chloroform; Dr. Boulton of Horncastle, Mr. Macilwain, &c., were present. The operation was of the simplest possible description. An incision, four inches long, made downwards from one inch below the umbilicus, exposed a non-adherent cyst, which was tapped and withdrawn as it was emptied. A small pedicle on the left side was secured by a clamp, the cyst cut away, the right ovary felt to be healthy, and the wound closed by sutures, without the slightest exposure of any of the viscera. There were fourteen and a half pints of fluid removed, and the cyst weighed seventeen ounces. She went on for two days perfectly well. The stitches were removed on the 24th, and the wound was quite healed. On the 25th symptoms of bronchitis with pulmonary congestion came on—cough, very viscid expectoration raised with much difficulty, thirst, hot skin, and pain under the sternum. The pulse was 100, respiration 32. Acetate of ammonia was given freely, and hot linseed poultices were applied to the chest. On the 26th all the symptoms were aggravated. Early in the morning the pulse was 130, the respiration 40. At 11 A.M., the respiration being still 40, and the pulse 140, I took eight ounces of blood from the arm. The patient immediately felt great relief; the pulse fell to 120, respiration to 36, and free perspiration came on. Ten grains of chlorate of potash were given every two hours. A little champagne was given during the night. During the next day the respiration was about 40, and pulse 120. Expectoration very viscid. Five minims of ipecac-

cuauha wine were given with each dose of chlorate of potash. On the 28th all medicine was discontinued, as the pulse had fallen to 100, respiration to 36, and the cough and dyspncea had nearly disappeared. It was curious that, notwithstanding the obstinate cough, the abdominal wound had healed perfectly, and she never complained of the slightest pain in the abdomen. The clamp was removed on May 1. A little pus escaped from the lower angle of the wound for a few days, but she was quite convalescent fourteen days after the operation, and left the hospital in good health on May 23. I heard of her recently as perfectly well.

CASE LXIII.

Ovarian Tumour; Tapped Eight Times; Ovariotomy; Recovery; Death from Cancer Three Months afterwards.

MRS. K. was born at Aberdeen. Her parentage was healthy; her mother still lives and is seventy-one years of age; her father died of paralysis at sixty-two, and two sisters are now alive and well. The catamenia appeared at the age of fifteen. They were always normal in quantity, and regular up to the time when she married. There was no history of sudden suppression. In the spring of 1859 she suffered from an attack of rheumatism. It was her first illness; but it could not have been very severe, for she was married in the autumn of the same year, at the age of thirty-three. In June 1861 she was delivered, at the full time, of a fine healthy girl; but after the delivery the abdomen never quite regained its normal size. For the next thirteen months she suckled her child; the catamenia returned, and in July 1862 it was thought advisable to wean. Very soon after this considerable pain was experienced in the right groin, and the abdomen sensibly increased in size. The catamenia came on as usual at the end of September; but they did not return when expected in October, and ceased. In October 1862 Dr. Dyce of Aberdeen discovered a tumour which he considered to be ovarian. It increased rapidly in size, and caused so many unpleasant symptoms that it was thought necessary to tap it in November. During the next seven

months the patient was tapped seven times. She was seen repeatedly by Dr. Dyce, and once by Dr. Keith; and both were of opinion that very extensive adhesions existed. I saw the patient first on April 25, 1863. She was somewhat emaciated, dark and rather sallow (chloro-anæmic). Her right leg and foot were oedematous, her digestive organs were in good order, her temperament was calm, and her nervous system unaffected. The lungs appeared tolerably healthy, but the pulse was 120, and she told me that it never fell below 100. The girth at the umbilical level was forty-seven inches; the distance from the ensiform cartilage to the pubic symphysis twenty-three and a half inches, and from each ilium to the umbilicus fourteen inches. The abdomen was filled with what was evidently a multilocular cystic tumour. The left lumbar region was tympanitic; but, with that exception, the tumour seemed to occupy the entire abdomen, pushing the false ribs outwards. The mobility of the tumour was very partial, and crepitus was heard and felt in the right lumbar region. My diagnosis was: 'Multilocular ovarian cyst of the right side; adhesions extensive, both parietal and intestinal, the latter chiefly below the liver.' The operation was performed on April 29, with the assistance of Dr. Wright and Mr. King Pierce; chloroform being administered by Dr. Parson. An incision was commenced at the umbilicus, and carried downwards for six inches; it was, however, found necessary to carry it three inches further in an upward direction. The adhesions to the abdominal wall were close and extensive, but not very vascular. Long pieces of omentum, however, dipped down into the depressions between the different cysts, and at one spot the small intestine was directly adherent. The right Fallopian tube was also closely attached to the cyst. The adhesions were, perhaps, more numerous and closer in the right iliac than in any other region. The pedicle sprang from the left side of the uterus; it was three or four inches long, and I secured it with a clamp. The omentum was tied in two places, and the ligatures were brought out at the upper angle of the wound. The right ovary was found to be small and healthy, and the wound was secured by five or six deep and several superficial sutures. During the operation there was a good deal of hæmorrhage from the abdominal walls. At the very first cut a large vein was divided, and

bled considerably; it ceased spontaneously, however, but on passing one of the sutures a vessel was punctured and bled so freely as to render a ligature necessary. The doubt as to the side of the diseased ovary was evidently due to the close adhesions in the right iliac region. The quantity of fluid removed by tapping during the operation was thirty-three pints; the weight of the solid part of the tumour 13 lbs. 13 oz.; making in all 46 lbs. 13 oz. She rallied fairly after the operation. At midnight the pulse was 120, tolerably strong, but the patient was semi-comatose, although no opium had been administered; she was roused by stimulants. Next day the pulse varied from 120 to 130. No pain was complained of, but there was a little tympanites. The urine was abundant. During the night she slept well without opium, and next day was better. There was a little discharge along the course of the ligatures; flatulence was troublesome, and was relieved by the introduction of a clyster-pipe into the rectum. On May 2 the pulse had fallen to 116; there was no pain on pressing the abdomen, which was still distended, however; and the urine was rather ammoniacal. Whisky was given at night. Next day I took out all the sutures except the lowest. There was but little discharge around the clamp; rather more along the omental ligatures. During the day the pulse varied from 112 to 120; stimulants being administered freely. In the evening there was a little nausea, with pain in the right shoulder. On the morning of the 4th the pulse was 120, and there was a good deal of pain and uneasiness from flatulence. I removed the clamp. At 1.30 the pulse had risen to 130, and was very weak. Champagne and sal volatile, with stimulant enemata, were freely administered. At midnight the pulse was 135, soft, but not small. On examining *per vaginam* there was a boggy feeling between the uterus and bladder, but no evidence of a collection of pus. The skin was warm, the tongue clean, the urine slightly ammoniacal and rather scanty. During the night there was a good deal of pain, but next morning early a fluid motion was passed which gave great relief. At 9 A.M. the pulse was 140. An omental ligature came away accompanied with a little foetid pus. The flatus was got rid of by means of a rectal tube. At 7 P.M. she was much exhausted, having vomited a greenish fluid. The pulse was 150. At 9 the pulse was 160; the respiration 24;

perspiration was, however, free, and stimulants were readily taken. At midnight the pulse was 150, and the urine scanty. I left her, scarcely hoping to see her again alive. Next morning (6th), at 9.30 A.M., the pulse was only 130, and considerably stronger; the urine was scanty, very ammoniacal, and passed involuntarily. The boggy sensation between the bladder and uterus persisted, but there was not sufficient ground to justify a puncture. The bowels acted freely at 1, and the patient was carried into another bed-room. During the afternoon two semi-solid fetid stools were passed. In the evening the patient was decidedly better, although the pulse was 140. At 10 p.m. she was carried back to her old room. Stimulation was still carried on.

On the morning of the 7th a free discharge of dirty serum had commenced from the border of the pedicle; the pulse was 130, stronger; and the pain in the shoulder was less. Another ligature and a piece of slough came away from the wound. In the afternoon the patient was very restless, and her pulse rose to 140, but in the evening it was 130 once more. During the next day the patient complained of pain in the back, and the pulse remained steadily at 130. Warm port negus was given. It was followed by a good night's rest, and on the morning of the 9th the pulse was only 120. One grain of quinine was ordered to be taken every four hours. In the evening another omental ligature came away, and the patient was able to enjoy a lamb chop. During the next two days the pulse fell to 108. On the 12th the two last omental ligatures came away, and there was a free discharge; the pulse rose in the evening to 136. The patient was a little deaf, probably from the quinine. For the next three days the condition did not improve. On the 16th she began to cough and expectorate a viscid mucus. Flatulence continued to be troublesome. On the 18th the pulse was 120, and the abdomen extremely tympanitic. Dr. Jenner saw the patient with me, and convinced himself that the left lung was completely compressed by the distended stomach. We agreed that Faradisation should be tried, and that half a grain of extract of nux vomica, with half a drop of creosote, should be given in a pill three times a day. At 3.30 Dr. Althaus employed Faradisation for half an hour, and very large quantities of flatus were expelled under its influence.

Next day the Faradisation was repeated, and was followed by

two motions, one of them solid. The pulse was 120 in the morning, but rose to 136 at night. For the next four days Dr. Althaus galvanised daily. On the 23rd the pulse was still 116, but the patient was able to sit up; the tympanites was greatly diminished. The galvanism was now stopped, but the pills were continued; and on the afternoon of the 26th Mrs. K. left London by a steamer bound for Dundee. The pulse then was 116, and the wound was freely discharging.

She bore the passage to Dundee and the journey to Aberdeen wonderfully well, and Drs. Dyce and Dalby, who saw her on her arrival, were quite satisfied with her condition. On the 10th of June the cough was still troublesome, the discharge from the wound was reduced almost to nothing, and Dr. Dyce was so satisfied that he said he would 'call again in a few days.' On the 4th of July the cough was much better, and Mrs. K. was able to leave her room without assistance; and the account received from her husband was so favourable, that on the 8th it was with no little surprise and regret I received a letter from Dr. Dyce in which he gave his opinion that the left lung was permanently consolidated, and that cancer of the omentum, or of the lymphatic glands of the abdomen, had developed itself. Three days later Dr. Dyce wrote: 'I fear that there is no room for doubt that the tumour and the enlargement of the abdomen are malignant; it is most extensive, and progressing at such a pace that she cannot last many weeks. A hard tumour is felt at the back part of the vagina, between the vagina and rectum; it is as large as an egg, and similar to the tumour in the abdomen.' On the 15th of July Dr. Dalby wrote: 'There is a hard nodulated mass extending over the whole abdomen, and apparently occupying the situation of the old disease. I can trace no appearance of pelvic abscess. The pulse is 160, feeble, bowels regular, tongue clean, appetite moderate.' Dr. Dyce's diagnosis was only too correct, and the patient died on the morning of the 1st of August. Dr. Dyce wrote: 'I inspected the body, and was scarcely prepared to find such a mass of disease. The entire abdomen was filled, from the bottom of the pelvis to the sternum, with a mass of encephaloid cancer. Every organ was imbedded in the mass, so that no proper dissection could be made. The most solid mass occupied the pelvis, the intestines passed through it in

every direction; and in various places nodules the size of a hazel nut projected into their canal. The stomach was completely fixed, and pushed up under the ribs. The liver had several nodules on its surface, and the whole organ was soft and rotten. The peritoneum was studded with compressed rounded medullary nodules of different dimensions, and around the pedicle there was a mass of the same character.'

In his valuable little book upon Paralysis, Dr. Althaus quotes this case as showing the advantage of Faradisation in tympanites. He says (p. 178): 'I saw her on May 18, when the flatulent distension was so great that the left lung was almost entirely compressed, the heart being dislodged to the right, and there being tympanitic sound in the second intercostal space. I performed Faradisation, after which the patient had a considerable discharge of flatus. On May 19 I repeated the operation, and the patient then had two motions, one of them solid. I operated upon her four times more, after which the lung had again expanded to its normal volume, and, the patient being nearly well, I discontinued the treatment. Both Mr. Spencer Wells and Dr. Jenner, who had also seen the case, were of opinion that if the patient had not been Faradised she would have died in London from the effects of the meteorism.'

I regret extremely that the tumour in this case was not carefully examined. There was nothing in its appearance which attracted my attention after the operation. It seemed to me to be an ordinary example of compound cyst, with large masses of semi-solid gland-like structure, and I did not make a more careful examination. But the result made me determine to obtain a more complete account than I had done before of every tumour which I might remove.

CASE LXIV.

Non-adherent Cyst; Never Tapped; Ovariotomy; Recovery.

I SAW a married lady on April 29, 1863, who was sent to me by Dr. Fleetwood Churchill of Dublin, as a favourable case for ovariotomy. She was thirty-two years of age, the wife of an

army surgeon, and had never been pregnant. She was pale and delicate, but in tolerably good health. She had observed a hard solid lump in the left groin in 1857. It gave her little uneasiness, and she was married in 1861. Since that time the tumour had gradually increased in size, and when I saw her reached to the ensiform cartilage. The girth at the umbilical level was thirty-one and a half inches; the distance from the ensiform cartilage to the pubic symphysis seventeen and a half inches; and from the ilium to the umbilicus, on the left side ten inches, on the right twelve. The tumour fluctuated uniformly. Just below the left hypochondrium crepitation was well marked, and in the left iliac region was to be felt a hard lump, freely movable. On percussion the left loin was found to be quite dull, the right tympanitic. The catamenial flow was normal. The uterus was far back, and its mobility was doubtful. The anterior wall of the vagina was somewhat depressed. My diagnosis was, ‘Cyst of left ovary nearly unilocular;’ and I advised ovariotomy to be performed one week after the cessation of the catamenia, which were expected on May 3. A cold delayed the operation till the 23rd, and on that day I performed it with the assistance of Dr. Beatty of Dublin, Dr. Daly, and Mr. Musgrave; chloroform being administered by Dr. Parson. The operation is very fully detailed by Dr. Beatty in his Presidential Address to the Dublin Obstetrical Society, at the opening of the twenty-sixth session. I give that account here at length, because it describes very fully some precautions and details which I have not described in previous cases—the use of the sheet of waterproof cloth made to adhere to the abdomen to cover the patient and keep her clothes dry; and the later modifications which I had made in the trochar and clamp. Dr. Beatty says:—

‘I was greatly struck with the precautions taken by Mr. Spencer Wells to secure every chance for the recovery of his patient. Instead of having her located near his own residence, where he could visit her frequently after the operation without much inconvenience, he had her placed in a most healthy district on the confines of the city, with free country air about her, and not less than three miles from his house. A most experienced and valuable nurse, who had been in charge of many of his previous patients, was in attendance. A portable table of the proper height and width, with movable

legs and folding joints, and thus easily carried, was sent from his house to that of the patient. The temperature of the atmosphere was at the time very high, nevertheless a fire was lighted in the bed-room to secure a sufficient amount of warmth during and after the operation. All this was done by Mr. Wells's assistant and the nurse, and everything was ready when he and I arrived at the house, about two o'clock. There were present the operator, his assistant, two medical friends, and myself; five in all. Mr. Spencer Wells lays great stress upon the advantage of having but few persons present at this operation. The patient was clothed in a dress of new flannel, with flannel drawers and warm stockings. She was placed on the table, on which a mattress and blankets had been arranged, and then a waterproof sheet, with an aperture in the middle sufficiently large to allow the prominent abdomen to protrude through it, was carefully adjusted to her person. This was done by having the inner edge of the aperture smeared with fresh adhesive plaster, which, when pressed down on the skin, adhered all round, and the cloth hanging down over the side of the table effectually guarded the patient against any fluid that might run down during the operation, and thus secured her being perfectly dry when removed to bed. Chloroform was administered with Dr. Skinner's apparatus, which I then saw for the first time. It is a most simple and admirable contrivance, producing full effect with the smallest amount of chloroform, and guarding against danger by the free admission of atmospheric air.

'The assistants were arranged in their places before the operation was begun. The gentleman who was to make pressure on the abdomen when the cyst was being extracted stood at the left side of the patient, near her head. Mr. Wells stood on the right side of the table below the patient's hips. I was placed on his left hand, about the middle of the table, my office being to guide the India-rubber tube of the trochar into the vessel prepared to receive the fluid when the cyst was pierced, and to take charge of the cyst as it was extracted, and to support it when fairly out, so as to prevent straining of the pedicle. When all was ready Mr. Wells made an incision through the integuments about four inches long, beginning two inches below the umbilicus, and extending towards the pubes. Successive layers were divided with the greatest caution, on a very broad director, and

finally the peritoneum, having been raised on the instrument, was cut through. The cyst, of a dull white colour, now presented itself. The director was passed in between it and the peritoneum, and moved freely round in all directions; showing that no adhesions existed on the anterior part of the tumour.

The cyst was now perforated with a trochar of Mr. Wells's contrivance. It consists of a hollow cylinder, six inches long, and half an inch in diameter, within which another cylinder, fitting it tightly, plays. The inner one is cut off at its extremity somewhat in the form of a pen, and is sharp. The sharp end is kept retracted within the outer cylinder by a spiral spring in the handle at the other end, but can be protruded by pressing on this handle when required for use. When thus protruded it is plunged into the cyst up to its middle; the pressure on the handle is taken off, and the cutting edge is retracted within its sheath. The fluid rushes into the tube, and escapes by an aperture in the side, to which an India-rubber tube is attached, the end of which drops into a bucket under the table. The instrument is furnished at its middle with two semicircular bars, carrying each four or five long curved teeth like a vulsellum. These teeth lie in contact with the outer surface of the cylinder, but can be raised from it by pressing two handles. When the cyst begins to be flaccid by the escape of the fluid, these side vulsellums are raised, and the adjoining part of the cyst is drawn up under the teeth, where it is firmly caught and compressed against the side of the tube. As the cyst continues to empty, it is slowly drawn out of the abdomen. In this case there was no adhesion, and the whole cyst came out without any difficulty. The pedicle was about four inches long and two inches broad. The uterus and the other ovary were drawn to the surface and examined. It was well it was so, for on the surface of the ovary a vesicle of the size of a small grape was found, full of clear fluid; this was freely cut open, and returned. The pedicle was now enclosed by a clamp of Mr. Spencer Wells's contrivance, the advantage of which consists in its being furnished with long and strong handles, by which firm pressure on the pedicle can be made; and when the clamp is secured by the screw provided for that purpose, the handles, being movable, are taken off, and the clamp remains at a right angle to the

wound in the abdomen. Silken ligatures were used in closing the wound—three deep and two superficial. In passing the deep sutures he dipped his needle purposely through the peritoneum on both sides. He was led to adopt this by the results of experiments on living animals. He had found that after making incisions into the abdomen, such as were closed by sutures, not including the peritoneum, were followed by adhesions of intestine or omentum to the inner surface of the wound, and thus much subsequent distress was produced. While in those in which the peritoneum was included, the union was more rapid, no such adhesions took place, and, the serous membrane being the first part to unite, all chance of pus making its way into the abdomen was prevented. The sutures being completed, the cyst was cut away near to the clamp. Three or four long and broad straps of adhesive plaster were placed across the abdomen, over the wound, and a thick layer of soft cotton was laid over all.

'The bed was prepared with hot bottles in various positions, and a broad flannel bandage laid across. Into this the patient was lifted (the apron previously described having been removed from the abdomen), the bandage was carefully adjusted, and she slowly recovered from the effects of the chloroform. Hot bottles were applied to the feet and along the sides. Abundance of blankets were put over her, all for the purpose of inducing and keeping up free perspiration. The urine was drawn off every six hours by the catheter. The patient progressed steadily; she never suffered any pain after the operation; she got no opium; and she returned to Ireland, quite well, in five weeks.'

In comparing my diagnosis with the actual state of things, I was struck with three points.

1. The crepitus under the left hypochondrium was supposed to indicate adhesion with the omentum, but was found to be due to a little inflammatory deposit on the surface of the cyst, causing roughness but no adhesion.

2. An error was made as to the side affected. I was led into it by the dulness in the left loin, and the tympanitic tone in the right. I should, however, have been led to doubt by the fact of the distance between the ilium and the umbilicus being two inches greater on the right side than on the left.

3. The small movable tumour in the left iliac region was due

to a little bunch of small cysts. As it moved so freely, it is probable that the whole mass moved with it. This may be a good sign of freedom from adhesion and of long pedicle.

The tumour, when examined, was found to consist of one large sac, which originally contained twenty pints of dark viscid fluid, and of a mass of smaller loculi with glairy contents.

The result of this operation may be stated in the words of Dr. Beatty:—

‘The patient progressed steadily; she never suffered any pain after the operation; she got no opium; and she returned to Ireland, quite well, in five weeks.’

I heard afterwards that some pain and swelling in the left leg came on during the journey to Ireland; but it soon subsided, and I received an excellent report of her health this summer

CASE LXV.

Multilocular Tumour; Twice Tapped; Ovariotomy; Death Fifty-four Hours after; Fibrinous Clot in the Heart.

A MARRIED woman, fifty years of age, was sent to me by Mr. Ridley of Shields, and was admitted to the Samaritan Hospital in May 1863. She had been married twenty-seven years, and had had eleven children, the youngest being seven years old. The whole abdomen was occupied by a large multilocular ovarian cyst; the girth at the umbilicus being forty-five inches; the distance from sternum to pubes twenty-three inches; and from one anterior superior spine of the ilium to the other, across the front of the abdomen, twenty-nine inches. A wave of ascitic fluid was evident over the surface of the tumour, and the abdominal parietes were oedematous. The catamenia ceased five years before, but recurred eleven months ago, and had since appeared scantily every three weeks. The growth had been rapid, as it had not been noticed until a year ago; but, in six months, tapping had been necessary. Thirteen pints were removed; and, after three months, thirteen pints again at the second tapping. On admission she said she was rather larger than before the second tapping.

A slight uterine discharge having continued till June 1, ovariotomy was deferred till the 8th, when Dr. Parson having

administered chloroform (Dr. Heine of Canstadt, Dr. Wahltuch of Odessa, Dr. Engelhardt, and other visitors, being present), I exposed the cyst by an incision six inches long, extending downwards from one inch below the umbilicus. Some ascitic fluid escaped, and extensive parietal adhesions were easily separated. On tapping the cyst, the canula was at once plugged up by the viscid contents. The cyst was accordingly held well forward by hooks, and I made an opening in it large enough to admit one hand, with which I cleared out the tenacious viscid contents. A large piece of omentum which adhered to the outside of the cyst was then separated, and the cyst withdrawn. The omentum bleeding freely, it was tied in three portions; the torn portions were cut off close to the ligatures, and the tied ends secured at the upper angle of the wound. The pedicle was secured by a small clamp about three inches from the right side of the uterus, and kept at the lower angle of the wound. The left ovary was healthy. A good deal of ascitic fluid and some blood were sponged from the peritoneal cavity, but no ovarian fluid had escaped into it. The wound was closed by deep and superficial silk sutures. The fluid and viscid matter removed weighed thirty-six pounds, and the cyst between three and four.

She went on remarkably well during the first twenty-four hours after operation, the pulse ranging between 80 and 90. There was no sickness, and very little pain. But the report on the morning of the second day was that the urine had become very high-coloured the evening before, the pulse had risen to 110, and she had had a very restless night. She had complained of pain under each axilla, but there was no sickness, and the tongue was clean and moist. There was some prolapse of the pedicle and oozing of reddish serum around it, so that I removed the clamp at 10 A.M. During the forenoon the pulse was up to 150, while the respirations were only 24. The abdomen became tympanitic, she complained of pain above the pubes, and the urine was scanty and very high-coloured. The pulse became more rapid and fluttering, the respirations more shallow and gasping, and she died fifty-four hours after operation.

The body was examined twenty-three hours after death. No premature decomposition. Cutaneous aspect of wound accurately united. Omentum adherent at upper angle. Pedicle embraced by lower angle. Not much distension of abdomen.

Two or three pints of red serum in the peritoneal cavity, but no clot. On raising the parietes the pedicle sunk inwards, the adhesions around it being very slight. There was an adhesion between the pedicle and the cæcum. The right spermatic vein was large and varicose, and contained a clot, partly fibrinous. The left ovary was small, attached by old adhesions to the mesocolon, and the fimbriæ of the left Fallopian tube adhered to the sigmoid flexure. The uterus was healthy. There was no pelvic peritonitis, but several folds of small intestine were glued together by recent lymph. The liver was large and fatty, the spleen soft. The stomach was distended, partly by gas and partly by a quantity of greenish-black fluid. The heart was tilted upwards, its apex towards the left axilla. Its muscular structure was distinctly in a state of fatty degeneration. The right auricle was distended by a soft dark clot. A hard cylindrical fibrinous clot was attached to the wall of the right ventricle, and passed along the pulmonary artery beyond its first division.

In some remarks which I made at the time upon this case, and which were published in the 'Medical Times and Gazette' of November 28, 1863, I said: 'It appeared that the causes of death in this case might be arranged in the following sequence:—(a) In a woman whose heart and liver were fatty we had (b) peritonitis over a considerable surface, (c) effusion of red serum, (d) super-fibrination of blood, (e) partial paralysis of muscular coat of intestines and stomach, (f) consequent distension of stomach and mechanical interference with action of heart, (g) formation of coagula in the right ventricle and pulmonary artery, and (h) death.'

CASE LXVI.

Multilocular Cyst; Never Tapped; Ovariotomy; Acute Bronchitis; Recovery.

A MARRIED woman, forty-four years of age, was sent to me by Mr. Parkinson of Wimborne in May 1863, and was admitted to the Samaritan Hospital with a large multilocular cyst, first noticed as a small movable tumour on the left side three years before. The growth had been slow at first, but much more rapid of late. It was composed of one large cyst above, and of

a mass of semi-solid matter below. The girth was thirty-five inches ; measurement from sternum to pubes twenty-four inches; from ilium to ilium, across the front of the abdomen, twenty-seven inches. She had been married fifteen years ; had never been pregnant ; and the catamenia had always been irregular and very scanty. As it was evident that tapping could be of no use, ovariotomy was recommended. It was deferred for some days on account of an attack of influenza, but was performed on June 15. Dr. Grimsdale of Liverpool and Mr. Parkinson of Wimborne were present.

The operation only differed from that last described in the absence of ascitic fluid and the presence of some parietal adhesions ; while it was not necessary to tie any omentum. Thirty-four pints of fluid were collected, and a large group of small cysts weighed between three and four pounds. The patient went on remarkably well for about twenty-four hours ; she then began to suffer from cough. The pulse rose to 120, and there was free expectoration of viscid mucus. Five grains of carbonate of ammonia were ordered every four hours in a little champagne. During the whole of the next day the pulse was 140 to 136, and the respirations 36, 34, and 32 per minute ; the skin scalding hot, but no perspiration ; cough troublesome, but no pain in the abdomen. Ammonia continued. On the third day after the operation the pulse was 120, respirations 32, cough very troublesome, and expectoration viscid. The acetate was substituted for the carbonate of ammonia, and five minimis of ipecacuanha wine were given every two hours. Beef-tea was thrown into the rectum. The ipecacuanha was discontinued at night, as each dose made her sick. The chest was covered by a hot poultice. Stitches removed. Wound healing. On the fourth and fifth days the pulse was 128 and 124, respirations 30 and 28. Free perspiration came on during the fifth day. Clamp removed. After this there was a gradual amendment ; she left the Hospital in good health on July 9, and has been heard of since as perfectly well.

I prescribed ammonia freely in this case, because I feared that deposit of fibrinous coagula might take place in the heart, as its action was very rapid and feeble, and the lungs were intensely congested. The object of giving the ammonia was to keep the fibrin in solution, and thus check deposition.

CASE LXVII.

Large Compound Cyst; Ten Tappings; Ovariotomy; Death Eighty Hours after.

ON June 9, 1863, I saw a lady, soon after her arrival from Aberdeen, in the last stage of ovarian disease. Dr. Dyce had written to me to say that ovariotomy had often been talked of during her illness and before her tappings; but that the absence of her husband in China, and the unwillingness of her friends to incur the responsibility in his absence, had prevented it from being urged. She was thirty-seven years of age, and childless. She had been tapped for the first time in September 1862, and eight times afterwards; the quantity of fluid increasing from sixteen pints the first time, to thirty-three pints the last, which was on May 25, a fortnight before I saw her. The catamenia had not appeared since May 1862. She was much emaciated, but had a cheerful appearance, which at first led me to be hopeful, although the tumour was very large and extensively adherent. The girth at the umbilicus was forty-five inches; the length from sternum to pubes twenty-one inches; from one ilium to the other, across the umbilicus, thirty inches. The thighs and legs, especially the left, were very cedematous. Three days after my first visit (June 12) I found her with a very feeble pulse, and suffering so much from the pressure of the tumour that I was obliged to give immediate relief by tapping, and I removed thirty-five pints of reddish viscid, highly albuminous fluid. The cyst from which this fluid was removed was on the left side. On the right a hard irregular mass remained, evidently adhering closely to the integuments. The respiration was so little relieved by the tapping, and the pulse remained so rapid and feeble, that I became much less hopeful. On the 16th Dr. Parson examined the chest carefully, and found some consolidation of the right lung. He also got a history of her having spit blood when a girl, and occasionally since after sudden exertion. On the 19th Dr. Hare saw her, and, although he confirmed Dr. Parson's report as to consolidation of a part of one lung, he did not think it sufficient to add to the risk of ovariotomy. On the 22nd Dr. Savage saw her, and supported her own wish to have the operation performed. I wrote to her

brother-in-law that I had ‘great fears as to the result;’ but death was so certain in a few weeks, if not in a few days, while ovariotomy did offer some prospect of a cure, that I yielded to her desire. Her husband was in China, and she knew as well as I did that in the operation was her only hope of seeing him again.

I operated on June 23. Dr. Parson gave chloroform, and I was assisted by Dr. Lindsay of the Guards and Dr. Savage. Dr. Courty of Montpellier was present, and I translate the account of the operation from his ‘*Excursion Chirurgicale en Angleterre*.’ He says: ‘The patient was in a state of extreme emaciation and feebleness. She was laid upon a narrow table, chloroform was administered before the visitors were admitted, and its effects were kept up during the whole course of the operation, which lasted twenty-five minutes. A sort of apron made of india-rubber covered the loins, pubes, hypochondrium, and inferior extremities, only allowing the tumour to appear through a wide aperture in its middle. Mr. Spencer Wells, placed on the right side of the patient, made an incision of ten to twelve centimetres on the linea alba, between the umbilicus and the pubes. He was obliged subsequently to prolong this incision slightly upwards and downwards, so as to be able to extract the tumour. Arrived at the peritoneum, he caught up that membrane with a little hook, as in the operation for strangulated hernia, incised it, and passed through the opening a broad flat director, first upwards, then downwards, upon which he slid a bistoury, and prolonged the incision in the serous membrane until it equalled in extent that of the integuments. Before proceeding further he applied two spring forceps upon the gaping orifices of two veins, which bled sufficiently to obscure the subjacent structures. These forceps were removed at the end of the operation. It now became difficult to separate the peritoneum from the tumour, which adhered so intimately to it that it was impossible to distinguish the cyst from the serous membrane. After having broken down, with the hand and with the director, those adhesions which were nearest the incision, the surgeon plunged his trochar into the tumour, and by means of an india-rubber tube, fitted upon the lateral canula of the instrument, he emptied the principal pouch of a very characteristic, thick, tenacious, greyish yellow fluid.

The margins of the half-emptied cyst were seized and fixed to the canula by hooks which were attached to it, so that the fluid was prevented from emptying itself into the abdominal cavity. As the abdomen was still large after the complete evacuation of the principal cyst, it became evident that the tumour contained other cysts of considerable size. Its tension had, however, decreased enough to allow the surgeon to pass his hand between the abdominal wall and the tumour, and attempt to break down the adhesions. This period of the operation was however very laborious on account of the intensity of the adhesions, and during the manœuvres the cyst ruptured. The parietal and visceral adhesions were then successively sought out and detached with ease. Some portions of the cyst were left adhering, in order to avoid rupturing the intestines, and in proportion as the surgeon attempted to extract the deep parts of the tumour they yielded to his traction and gave way. Plunging then his hand into the abdomen, and even into the pelvis, Mr. Spencer Wells separated and extracted piecemeal portions of tumour to which multiple cysts of all sizes and fungoid excrescences gave the appearance of cauliflower-like tumours, although no tissue of that kind entered into the composition of this profoundly altered ovary. The extirpation was continued in the same way to the end with extraordinary rapidity and dexterity. The tearing and extirpation of the tumour by fragments necessarily caused some bleeding, which stopped however on the application of the clamp to the pedicle. The surgeon then proceeded to extract successively from the pelvis all the clots and the remains of the cyst which had been left. He cut with scissors all the parts of the cyst which were still adherent to some points of the interior of the abdominal wall. By means of an india-rubber syphon he tried to withdraw all the fluid which remained in the abdomen or pelvis. Then with fine sponges he wiped out the abdominal cavity, its walls, the intestines, and the pelvis, performing, according to the happy expression of M. Worms in the "Gazette Hebdominaire," "the toilet of the peritoneum."

'The haemorrhage was completely arrested without ligature or any other means. The operator brought the clamp to the inferior angle of the wound, cut away all that portion of the cyst which overstepped the limits of the clamp, and closed the

wound by several deep sutures, the silk threads traversing the peritoneum at the distance of two centimetres from each other, and a few superficial sutures. A little lint was interposed between the clamp and the skin upon which it rested. Some long elastic straps, extending from flank to flank, and some well-carded cotton wool, were applied, and everything was kept in place by a moderately-tight bandage.

'The patient was carried back to bed, and, by means of hot bottles, was kept sufficiently warm to prevent any risk of cold, and obviate the immediate effects of such a serious operation. She escaped the primary danger, but she did not rally. The pulse by its rapidity and feebleness indicated her danger, and, in spite of some passing amelioration in her state giving glimpses of hope, she died on the fourth day, eighty hours after the operation. She had neither pain nor haemorrhage, nor meteorism, nor tension of the belly, nor symptoms of peritonitis. Her death can only be attributed to excessive weakness.'

I have only to add to this report that Dr. Lindsay gave me most kind and constant assistance in the after-treatment.

CASE LXVIII.

Large Cyst once Tapped; Ovariotomy; Recovery.

On the 20th of March, 1863, I saw an unmarried lady twenty-nine years of age in consultation with Dr. Llewellyn Williams, of Kensington. She had suffered for two years from an ovarian cyst which had filled the abdomen, and gave great discomfort. We agreed to tap, and I did so on the 26th of March, removing a pailful of fluid. Some non-adherent secondary cysts were then felt, and we agreed that when another tapping became necessary from the distension, ovariotomy should be again considered. The result was that I performed the operation on the 25th of June, assisted by Dr. Lindsay, Dr. Savage, and Dr. L. Williams, Dr. Parson administering chloroform. Dr. Courty was also present, and I again borrow the account of this operation from his interesting work. He says: 'This operation was as remarkable for its simplicity as the former had been for its complications. . . . The different steps in the operation—the integu-

mentary and peritoneal incisions, the puncture of the tumour, the evacuation of the fluid, the extraction of the cyst, the section of the pedicle, the closing of the wound with four deep and three superficial sutures—were all practised with as much rapidity as precision. On the 30th of June menstruation came on, fourteen days before it was expected. I saw the patient on the 4th of July, and found her very well. The clamp and sutures had been removed the previous evening. The menstrual flux had produced a little restlessness, heat, and abdominal pain, but the moderate frequency of the pulse, the softness of the abdomen, the good appetite and contentment of the patient, augured a favourable issue, especially since the moment of danger was already past.'

On the 9th of July she left her lodgings and went home, a distance of four or five miles, and has since enjoyed, she says, 'better health than she ever did before in all her life.'

CASE LXIX.

Non-adherent Cyst; Three Tappings; Ovariotomy; Recovery.

I FIRST saw the subject of this case on the 30th of May, 1862. She was an unmarried lady, fifty-four years of age. The catamenia, which had been regular till the age of forty-eight, then ceased suddenly and entirely. Soon afterwards she began to fail in health, but it was not till she was fifty-one that she noticed any fullness of the abdomen, and then only because her attention was directed to it by her dressmaker. In 1860 she consulted Dr. F. Bird, who detected an ovarian cyst, and tapped it in January 1861, removing six pints of fluid. Some swelling remained on the right side, she refilled slowly, and when I saw her, sixteen months after the tapping, she was not larger than she was just before the tapping. I advised that tapping should be repeated, hoping that another long interval might follow, and Dr. Bird tapped her the second time in June 1862, and the third time in January 1863, removing seven-and-a-half pints on the former and eight-and-a-half on the latter occasion. I saw her again in June 1863, as large as before the last tapping

four months before. There were no signs of adhesion. The uterus was high and far back, and the tumour was felt freely movable in front of it. Ovariotomy was decided upon, and I operated on the 27th of June, 1863. Dr. Parson gave chloroform; Dr. Davey of Walmer was present, and kindly assisted me, with Dr. Lindsay and Dr. Savage. Very little chloroform was given, on account of an emphysematous chest, but she was kept completely unconscious of pain. The operation was extremely simple: exposure of a non-adherent cyst by an incision four inches long, emptying, fixing, and withdrawing the cyst, securing the pedicle by a clamp, and closing the wound by deep and superficial silk sutures, was the work of a very few minutes. There was nothing to cause the slightest apprehension during the progress after operation. Three doses of laudanum, of ten minims each, were given by the rectum. No other medicine was required. All the sutures were removed on the third day. I left the clamp on till the seventh day, and then removed it, as it led to some pain in the left hip and thigh. After this the patient recovered rapidly, returned to the country, and, though weakened soon afterwards by an epidemic influenza and sore throat, soon regained strength. I heard of her this summer as perfectly well.

CASE LXX.

Large Ovarian Tumour; Once Tapped; Ovariotomy; Recovery.

A MARRIED woman, forty-nine years of age, who had never been pregnant, was sent to me by Mr. Breach of Aston Upthorpe, with a large and very prominent ovarian cyst. She was admitted on April 28, 1863, into the Samaritan Hospital. The catamenia ceased three years before, and she had been very regular all her life. She had not been ill, nor noticed any enlargement of the abdomen until August 1862. Some weakness and oedema of the right leg had come on latterly. She had never been tapped, but had been treated in the Radcliffe Infirmary, Oxford, during an attack of peritonitis. On putting before her the risk of ovariotomy, she seemed to wish to see what could be gained by tapping, and I accordingly removed

twenty-one pints of dark viscid fluid on May 4, 1863. The œdema of the right leg and thigh also pointed to the propriety of a preliminary tapping. On May 12 the note is—‘Œdema of leg quite gone. The collapsed cyst appears to be free, and on the right side. Advised to go home, and return before any great increase in size for ovariotomy.’ She was readmitted on June 12, certainly not in so good a state of general health as before the tapping, and with some œdema both of the right leg and of the abdominal walls. Ovariotomy was performed on June 29. Dr. Llewellyn Williams administered chloroform; Professor Courty of Montpellier and Dr. Barker of Bedford were present. The following is a translation of an account of this operation published by M. Courty in his ‘Excursion Chirurgicale en Angleterre,’ from which I have before quoted so largely:—

‘The different steps of the operation having been performed as in the preceding cases, serious difficulties arose on account of adhesions. Many of these attachments to the intestines had to be separated with infinite precautions. The tumour gave way in several places, and had to be removed in fragments, its rupture leading to the escape of a certain quantity of liquid into the abdomen. This liquid, of a brownish-yellow colour, due, without doubt, to fatty matter and cholesterine, might have been taken, on a superficial examination, and with the exception of the odour, for faecal matter. The clamp was applied as usual. The peritoneum and the pelvic cavity were carefully dried and freed from the effused liquids by the successive introductions of some thirty sponges, used in every direction. The wound was united by four deep sutures above the clamp, and one below it, and two superficial sutures. I saw the patient on the 3rd of July. Her state was entirely satisfactory. No bad symptom had arisen, and recovery appeared to be certain.’

It is only necessary to add that there was no check to recovery, that she left the hospital on July 27, and Mr. Breach wrote on August 29 to say that she was ‘perfectly well—entirely restored to health.’

CASE LXXI.

Ovarian Cyst; Tapping; Twelve Years' Arrest; Second and Third Tappings; Ovariotomy; Death from Fibrinous Coagulum in the Heart.

AN unmarried domestic servant, thirty-five years of age, was sent to me by Mr. Davis of Clevedon, who informed me that she had been tapped in the Radcliffe Infirmary, Oxford, fourteen years before, and had remained for twelve years without any reformation of fluid; but for the past two years the abdomen had been increasing in size, and it became so large early in 1863 that she was unable to do her work. On May 27, 1863, Mr. Davis tapped her, and removed about a gallon of thick fluid. On June 4 he tapped her again, and removed half a gallon more fluid. This relieved tension; but finding that some cysts remained unemptied he sent her to me, as a case in which ovariotomy offered the only hope of cure. She was admitted to the Samaritan Hospital, and on June 22 I made the diagnosis of ovarian tumour free from adhesions, and thought the case a favourable one for ovariotomy; yet as there was no urgent symptom, and some possibility, as she had passed twelve years after the first tapping before the fluid re-formed, that it might form slowly now, she was advised to return to the country, and it was arranged that if she increased in size she should come to town again. She was accordingly readmitted on July 20, 1863, having increased five inches in transverse and four inches in vertical measurement in a month.

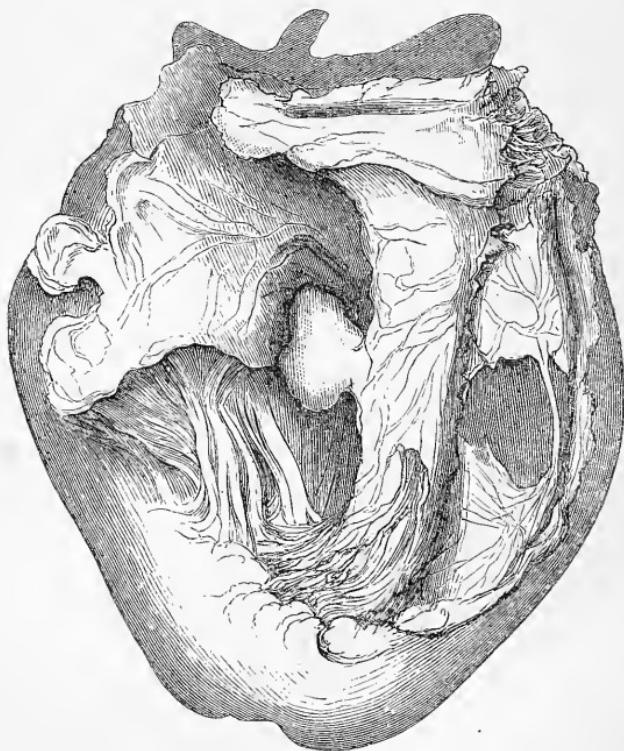
Ovariotomy was performed on July 23. Dr. Parson gave chloroform. Mr. Tatum, Dr. Allen of New York, Dr. Stuckrath of Berlin, and Dr. Molitor of Carlsruhe, were present. A non-adherent cyst was exposed by an incision four inches long, tapped, twenty-one pints of fluid drawn off, and the emptied cyst gradually withdrawn, while Dr. Savage kept the abdominal wall so closely pressed against the cyst that the interior of the peritoneal cavity was not seen, and not a drop of blood or ovarian fluid escaped into it. The right ovary was felt to be healthy, and there was a peduncle about two inches long between the left side of the uterus and the cyst.

A broad connection between the left broad ligament and the mesocolon was observed, and the clamp was placed rather on the cyst just where it joined the pedicle than on the pedicle itself. On closing the wound, I observed that the colon was drawn towards it, and anticipating the possibility of having to remove the clamp, I applied a ligature tightly beneath it around the pedicle.

The patient went on perfectly well for twenty-four hours, but thirty hours after operation I found her complaining of pain in the abdomen. There was some tympanitic distension at the epigastrium, and an evident depression of the clamp. I therefore removed it, after cutting away all the dead tissue above it, the ligature previously applied effectually preventing haemorrhage. She was soon relieved; flatus began to pass *per anum* within an hour, and some fluid faeces passed next morning. She vomited once in the night, looked very well in the morning, and was free from pain; but the pulse, which had before varied from 88 to 104, had now risen to 130, and the tongue was white. The ligature had sunk inwards, and there was a free dark serous discharge from the abdomen. She expressed herself as feeling very comfortable all day long, but at night the pulse was up to 140. She vomited at twelve o'clock, but after some soda-water slept comfortably. She vomited again on the morning of the 26th (the third day after operation), and had a motion of faecal matter. In the forenoon the pulse was up to 150; the skin very hot, dry in some parts, sweating in others. Flatus passed freely *per anum*. I removed all the sutures, as the wound was well united except at the lower angle, where the ligatures passed out; and I inserted an elastic catheter by the side of the ligatures, through which about six ounces of clear reddish serum, not fetid, were sucked by a syringe. At noon this was tried again, but no more fluid could be obtained. By this time the pulse was up to 160, and the first sound of the heart was almost inaudible. Five grains of carbonate of ammonia were given in champagne every hour. Beef-tea, yolk of egg and brandy, were injected every second hour into the rectum; but the pulse became more feeble and fluttering, the extremities cold, and she died in the evening, about eighty hours after operation.

An examination of the body was made by Dr. Barratt, twenty

hours after death, the temperature being about 75° Fahr. Decomposition had set in very rapidly; the intestines were very much inflated, and on removing the strips of plaster (which were blackened by the reduction of the lead to sulphuret), the edges of the incision separated. The lungs were crepitating and fully inflated. The pericardium contained about half-an-ounce of serum. The heart lay quite collapsed at the fundus of the pericardium. On cutting the vessels as long as possible, some very fluid black blood flowed from them. The right auricle contained a little black imperfect coagulum; the right ventricle also contained some of this coagulum, as well as the firm adhering fibrinous coagulum shown in the accompanying woodcut, drawn from the preparation by Mr. Hart.



The right ventricle is laid open, and the clot is seen to be grooved, and to pass down from the pulmonary artery, and through the auriculo-ventricular opening into the right auricle, where it was surrounded by the black imperfect coagulum. The

curtains of the tricuspid valve are seen on each side of the clot, so that it will be at once understood (thinking of the ventricle before it was laid open) how the action of the valve was interfered with. The clot adhered very closely to the columnæ carneæ, and to many of the chordæ tendineæ, being as it were twined around the latter.

The left auricle and ventricle were free from clots. Any blood which had been in them was sufficiently fluid to have escaped at the time the vessels were divided. The muscular substance of the right ventricle was very thin and soft; the left relatively thin, weak, and flaccid. The liver was healthy, but pale; the kidneys large and containing much fluid blood from gravitation. Both stomach and intestines greatly distended with gas. Lymph on the surface of the intestines proved that there had been diffused peritonitis. The uterus was healthy in structure, but there was a thin coating of recent lymph on its fundus. The right ovary was normal. The left ovary was gone, and the left Fallopian tube and broad ligament ended in a dark line where they had been separated from the mesocolon. There was no blood in the peritoneal cavity, only a little serum and some flaky lymph.

This case was watched with great interest, as I suspected the commencement of fibrinous clots in the heart at least twenty-four hours before death, and at least eight hours before death Dr. Richardson defined the precise spot in which the coagulum was found. Very different opinions were held as to the precise share of the clot in causing death, Dr. Barratt regarding it simply as a consequence of the dissolution of the blood, and as even being favoured by the alkaline treatment; while Dr. Richardson looked to the possibility of keeping the fibrin in solution by ammonia, and thus preventing deposit, as the only chance of saving life. I discussed the question very fully near the bedside, and considered with Dr. Richardson the possibility of passing some instrument downwards from the external jugular and through the subclavian vein into the superior vena cava, by which means the clot might be drawn upwards. But the difficulty of doing this without admitting air seemed to be insuperable.

CASE LXXII.

Ovarian Tumour never Tapped; Ovariotomy; Removal of a Fibroid Outgrowth from the Uterus; Death forty-four hours after.

ON July 24, 1863, I saw an unmarried lady, fifty-five years of age, at the request of Mr. Baker, of Birmingham. She was moderately healthy-looking, thin, but not excessively so. The digestive and nervous systems appeared in pretty good order, but there was an occasional short cough, and a good deal of mucous rattling about the bronchial tubes. The pulse was 96, full, and the heart's tones were normal. The girth at the umbilical level was forty-two inches. The distance from the ensiform cartilage to the pubic symphysis nineteen inches, and from the ilium to the umbilicus on the right side thirteen inches, on the left twelve. The abdomen was occupied by a fluctuating tumour which reached to the ensiform cartilage. The right loin was clear, the left dull, and there was no impulse nor crepitus to be felt. I was told that the catamenia had persisted more or less for months, and that they had only ceased a day or two previous to my seeing the patient. The uterus was centrally placed and quite normal; the os was small; both sides of the vagina were depressed by the tumour. On enquiry I found that one brother and four sisters had died of consumption, but that the patient herself had always enjoyed good health, and had been of active habits until a year previously, when she first observed that she was increasing in size. Some months later she became alarmed and went to Mr. Baker, who diagnosed ovarian tumour and recommended ovariotomy. In March she had caught cold and had been laid up with a smart attack of bronchitis. My diagnosis was, 'Ovarian cyst, left side; no parietal adhesions; cyst nearly unilocular, but some small cysts low down.' The operation was performed on July 28, with the assistance of Dr. Savage and Mr. Tatum, chloroform being administered by Dr. Parson. The incision was commenced midway between the umbilicus and the pubic symphysis, and extended downwards four inches. There were no adhesions, with the exception of one small patch to the right of the umbilicus. The pedicle was rather short, but was secured easily in the clamp. The opposite ovary was normal;

but hanging from the back of the body of the womb was a fibroid outgrowth the size of a small orange. Its pedicle, which was about one inch in length, was slowly cut across by the *Ecraseur*. There was no bleeding. The wound was closed by three deep sutures above the clamp, and one superficial below it, and by long strips of plaster. The fibroid outgrowth from the womb was not in this case diagnosed, although its existence might have been suspected from the persistence of uterine discharge at the age of fifty-five. The tumour, which was removed, consisted of a large cyst with thin walls; on the inner surface were seen strong fibrous septa, the remains of smaller cysts.

The patient rallied very slowly; two hours after the operation the pulse was 66, and the face was quite cold. Great pain was also complained of, and opium was given freely. At 11 P.M., seven hours after the operation, the pulse was 90, and the skin moist. The patient slept well till 4 next morning. On the day after operation she still complained of pain in the region of the clamp, and there was a little tympanites, no flatus passing *per anum*. The pulse rose to 108 in the afternoon, and vomiting set in. At 8 on the morning of the 30th the tympanites was excessive. I removed the clamp, after tying a ligature behind it. There was free oozing of bloody serum and a little discharge of pure blood. The pulse rose to 160, and the patient died at 11.30 A.M., forty-four hours after the operation.

The post-mortem examination revealed no traces of peritonitis and no internal haemorrhage. Death seemed to have been due simply to want of power; and the lesson which the case taught me is, to be content with palliative measures in old people whose family history leads to a probability of little constitutional vigour or power of repair. It was not very necessary, and therefore unwise, to touch the uterine outgrowth. But it appeared almost cruel to leave a tumour which might increase, when it could be removed so easily. Still the removal protracted the operation, and may have added to the shock. In a similar case since, I was content with removing the ovarian tumour only.

CASE LXXIII.

Ovarian Cyst; Never Tapped; Ovariotomy; Recovery.

IN August 1863, I was asked by Dr. Symonds of Clifton, to give my opinion in writing as to the propriety of performing ovariotomy upon an unmarried lady in whose case he was interested. This led to a correspondence with Dr. Beatty of Dublin, by whom the patient had been consulted in the previous January, and who had detected an ovarian tumour, and had sent her back to her former medical attendant, Dr. Mackesy of Waterford, advising her to wait for some time. She returned to Dublin in August of the same year, and Dr. Beatty, in his address to the Dublin Obstetrical Society, from which I have already quoted, thus alludes to her :—‘The cyst had now become full, and was evidently unilocular, without any solid constituents. Her health was good; she never had suffered pain in the tumour; her age fifty-five years; and menstruation had ceased. Under these circumstances I advised the extirpation of the cyst, and proposed to do it. My intention was, however, frustrated. It appeared that a female friend and relation of the lady, who resides in England, had communicated with Mr. Spencer Wells about the case, and it was finally arranged that he should come over and perform the operation. The operation was fixed for the 18th of August, and on that morning at 11 o’clock it was done by Mr. Wells, in the presence of Dr. Mackesy who came from Waterford, Dr. Gordon, Mr. J. G. Beatty, Dr. Macnamara, and myself. The precautions of warm room, warm clothes, &c., as previously described, were all taken, and the same nurse who attended the first case I saw Mr. Spencer Wells operate on in London had come with him to take charge of this lady.’ (This refers to case 64.) ‘Chloroform was administered by Dr. Macnamara, with Dr. Skinner’s instrument, which I had brought from London, and was now used for the first time in Dublin. The operation was a facsimile of the one in London (Case 64). There was no adhesion, and the cyst came out without any difficulty. The patient never had a bad symptom, she required no opium; the clamp was removed on the fourth day; the wound healed kindly; she was allowed chicken on the

fifth day; she was walking about her room in three weeks, and she returned to the country in seven weeks, having been out in a carriage for a week previously.'

I have heard recently that she remains quite well.

CASE LXXIV.

Ovarian Cyst, not Tapped; Ovariotomy; Death in Eighty-two Hours of Peritonitis.

IMMEDIATELY after performing the operation just described (Case 73) I was asked by Dr. Gordon to see a case of his, and determined on the propriety of operating. The patient was a single lady, twenty-four years of age, and the tumour was of about two years' standing, and for the last few months had caused much uneasiness; occasional attacks of abdominal pain, occasional irritable bladder, and constant anorexia being the most distressing symptoms. I found the whole of the abdomen, with the exception of the left loin, filled with a tumour which fluctuated superiorly, but not in its inferior third. There was no crepitus nor tenderness on pressure, but I could not determine whether or not the tumour was movable on account of the great thickness of the abdominal parietes. The uterus was high up out of reach, and the vagina was pulled into a long funnel. My diagnosis written down at the time was 'Multilocular cyst of right ovary; diagnosis of adhesions uncertain, as the integuments are too thick to allow the motion of the cyst to be visible.' It was decided in consultation with Drs. Beatty and Gordon that ovariotomy should be performed, and it was accordingly done on the 21st of August 1863, in the presence of Drs. Banks, Corrigan, Churchill, Beatty, and Gordon. Chloroform was administered by Mr. Macnamara. There were no adhesions; the pedicle sprang from the right side of the womb, and was four inches long. It was secured by a clamp which was fixed outside, and the operation was altogether as simple as could be desired, but the patient complained of some pain on recovering from the chloroform, moaned, and vomited. Opium gave relief, and twelve hours after the operation she was apparently doing well,

although the pulse was 130; but that was attributed to the heat of the weather. There was less pain and no vomiting, but considerable thirst; the tongue was moist, and the catheter drew off six ounces of urine. During the night there was a good deal of pain, which was not relieved by opium. Vomiting set in, the pain subsided, but the pulse remained from 120 to 130. The patient fell asleep at intervals, and moaned deeply during her sleep. Next day the patient was tolerably well; there was considerable thirst, but the skin and kidneys acted freely; the abdomen was not distended nor painful. The pulse was from 120 to 130. All the following night and the succeeding day the patient was very restless, and required large doses of opium, and the pulse continued at 130. During the night of the 23rd menstruation, or rather uterine epistaxis, commenced, and the patient vomited a little; the further course of the case may be described in Dr. Gordon's own words: 'The vomiting became more severe, the quantity of fluid thrown up increased; the colour became darker, and it was attended with more difficulty, more pain, and greater subsequent prostration. Still she had no abdominal tenderness, and continued to secrete urine, but I was satisfied that the peritonitis continued. I put a blister on the epigastrium, gave her brandy, hydrocyanic acid by the mouth, threw up beef-tea and brandy into the rectum, and kept her well warm. Still she sank, and got tracheal râle, and ceased to breathe. The pulse continued three minutes after her breathing ceased. She died eighty-two hours after operation.' A partial examination showed that the abdomen contained much blackish serum, and the peritoneum was covered with soft lymph. 'I suppose,' says Dr. Gordon, 'we may say her death was caused by a very low form of peritoneal inflammation.' Decomposition set in very rapidly.

CASE LXXV.

Non-adherent Cyst, never Tapped; Ovariotomy; Peritonitis; Death Forty Hours after Operation.

IN August 1863 I first saw an unmarried lady, thirty-five years of age, in consultation with Dr. Hutton, of Dublin. I was told that twelve years previously she had been exposed for seven consecutive hours to heavy rain, that she caught cold, that the cold was followed by swelling in the legs, and that ever since she had been an invalid. There was no enlargement of the body till two years before I saw her. Four months before she had consulted Dr. Churchill, and for the last six weeks she had been attended by Dr. Hutton. She was very subject to diarrhoea. Ovarian disease was diagnosed, and ovariotomy was performed on the 4th of September, with the assistance of Drs. Hutton, Beatty, and Gordon, Mr. Macnamara administering chloroform. There was nothing peculiar about the operation, except that there was a thick layer of fat between the sheath of the rectus and the peritoneum. The pedicle was fairly long and was secured in a small clamp. The opposite (right) ovary was healthy. I got the tumour through an opening only five inches long. The tumour consisted of one cyst, which contained fifteen pints of fluid, and a mass of adenoid growth which weighed one pound. The patient rallied well after the operation. She complained of pain, however, moaned a great deal, and had several rigors, which at first appeared to be hysterical. In the evening I removed two of the sutures which seemed to be paining her, and that gave a little relief. The pulse, however, rose steadily, bilious vomiting set in, and the patient died forty hours after operation. No examination of the body was permitted.

This case is alluded to in Dr. Beatty's address to the Dublin Obstetrical Society, from which I have before quoted. There was a remarkable resemblance between this case and the previous one (Case 74). Both operations were done in Ireland. Both patients were Celts, unmarried, with a very thick layer of fat in the abdominal wall. The cysts were of moderate size, free from adhesion, removed without difficulty, and the pedicle

easily fixed outside the abdomen. Yet with so many favourable circumstances, death followed one operation in eighty-two and the other in forty hours; and the symptoms after the operation were very similar in both cases, such as I have never seen before nor since, clearly indicative of acute diffuse peritonitis. I have since fancied that there might have been some epidemic or other cause of *puerperal* peritonitis, or that sub-acute peritonitis was present before the operation. A good deal of pain had been complained of by both patients, and I had noticed a rapidity of pulse, but attributed it to nervousness, and thought no more of it until I began to try and explain the very unusual and unexpected train of symptoms in cases apparently so favourable.

I believe that the cysts removed in these three cases are all in the museum of the College of Surgeons of Ireland.

CASE LXXVI.

*Ovarian Tumour and Ascites; Tapped six times;
Ovariotomy; Recovery.*

A MARRIED woman, thirty-five years of age, was sent to me by Dr. Jackson of Scarborough, and was first admitted into the Samaritan Hospital in July 1863, having a very large multilocular ovarian cyst, which had been tapped five times within the preceding seventeen months, about three gallons of fluid escaping at each operation. She had one child two years old, and the swelling had been discovered about two months after her confinement. The catamenia had been absent since November 1862. As the weather was very hot in August, and the wards were about to be cleansed, I tapped her on the 10th, removed twenty-two pints of mucoid fluid, and she went to the suburbs. She was readmitted on the 3rd of October, very much oppressed by distention of the abdomen, and troubled a good deal by cough, but otherwise in fair condition. The measurements on the 6th were—girth at umbilical level, forty-seven and a half inches; sternum to pubes, twenty-five inches; from one anterior superior spine of ilium to the opposite, thirty-one inches. A wave of ascitic fluid was noticed as well as the

deeper fluctuation of the ovarian cyst. The uterus was low, freely movable, the os and cervix normal, and there was some prolapse of the posterior wall of the vagina, ascribed to the presence of ascitic fluid in Douglas's space. The liver was pushed upwards, pressing upon the right lung, and there was also some fluid in the right pleural cavity. The dulness extended as high as the third rib. The urine was scanty and concentrated, otherwise normal.

I performed ovariotomy on October 8. Dr. Gusserow of Berlin, Mr. Harrison, &c., were present. Dr. Parson gave chloroform. An incision was made, seven inches long, from the umbilicus downwards. There was a free escape of ascitic fluid as soon as the peritoneum was opened, and a cyst was exposed with walls so very thin that they gave way directly a puncture was made, and the trochar became useless. The cyst protruded as it was emptied, and passing one hand within it, I broke up several groups of cysts in the interior, and after separating a large piece of adhering omentum from the outside, the whole tumour was withdrawn, a long slender pedicle secured by a clamp, and the tumour cut away. All the torn and congested shreds of separated omentum were then cut off, and five vessels which bled freely were tied with fine silk by Mr. Harrison, the ends of the ligatures being cut off short and returned with the omentum. A great deal of mixed ovarian and ascitic fluid was then carefully sponged from the abdominal cavity, and the wound was closed by five deep and three superficial silk sutures, the stump of the pedicle being fixed by the clamp outside the lower angle of the wound.

Very little need be said of the progress after operation, as it was chiefly remarkable for the absence of pain, vomiting, or other abdominal symptoms, although a troublesome cough and viscid expectoration were annoying on the third and fourth days. The sutures and clamp were both removed on the fourth day after operation. A slight prolapse of the pedicle, and neuralgic pains in the right hip and leg, with some irritation of the bladder, followed. This continued till the ninth day, when there was a rather free discharge of fetid pus from the side of the pedicle, and an eruption of urticaria. Afterwards she improved daily. The prominent pedicle sank to the level of the skin; cicatrisation followed. She left the hospital in good

health on November 4, and I received a very grateful letter from her in which she said she was perfectly well, on the first anniversary of her operation.

CASE LXXVII.

Large Cyst; Twice Tapped; Ovariotomy; Very Firm Adhesions; Recovery.

AN unmarried house-servant, twenty-three years of age, was sent to me in August 1863, by Mr. Johnson of Croydon, having a large ovarian tumour which had been tapped twice, the first time in September 1862, and the second in July 1863, each time between two and three pailfuls of fluid having been evacuated. She filled slowly after the first tapping, very rapidly after the second. She was admitted early in October to the Samaritan Hospital. The catamenia commenced on the 16th and ceased on the 20th. On the 25th, the girth at the umbilicus was forty-two and a half inches, and the distance from sternum to pubis twenty-two inches. She said she was then not nearly so large as before the last tapping.

Ovariotomy was performed on October 26. Dr. Parson gave chloroform. Dr. Hitzig of Berlin, Mr. Brooke, Dr. Bullen of Cork, Drs. Johnstone and Hilditch of Greenwich Hospital, were present. A small incision was first made, but it was afterwards enlarged until it extended from three inches above the umbilicus to five inches below it. Considerable difficulty was experienced in separating some very intimate and unusually firm adhesions, which extended all over the abdominal wall anteriorly; but as there were no posterior nor pelvic attachments, and only a small piece of omentum loosely adhering, there was no difficulty experienced after the adhesions had been broken down. Owing to the closeness of those adhesions the cyst was opened during the efforts to expose and isolate it, and it was emptied while the peritoneal cavity was still unopened. There was scarcely any haemorrhage. A small pedicle was secured by a clamp, and kept outside without much traction. The wound was closed by five deep and several superficial sutures of fine silk.

She passed a comfortable night after two opiate enemas, and went on remarkably well, not vomiting once. All the stitches were removed on the third day. On the fourth day she began to suffer from pain in the course of the right sciatic nerve, and as the clamp was depressed, I removed it on the fifth day. The neuralgic pain ceased very soon after the removal of the clamp. On the seventh day the bowels were relieved after a warm-water enema. After this she gradually regained strength, was sitting up three weeks after operation, and left the hospital in very good health on November 21. She has remained quite well since.

CASE LXXVIII.

Large Cyst; Never Tapped; Ovariotomy; Death on the Eighth Day from Septicæmia.

AN unmarried cotton weaver, from the neighbourhood of Preston, was admitted to the Samaritan Hospital on October 26, 1863, the whole abdomen being occupied by a multilocular ovarian tumour, which had only been discovered about five months before, although increase in size had been noticed for about three years. About eight months before admission she had suffered severely from peritonitis or cyst inflammation, and recently the left leg had become hard, and was very much swollen. There was a free exudation of serum from an abraded surface above the ankle.

Ovariotomy was performed on November 2. Drs. Johnstone and Hilditch, of Greenwich Hospital, were among the visitors. Dr. Parson gave chloroform. The cyst was exposed by an incision, four inches long, extending downwards from one inch below the umbilicus. Extensive adhesions over the front and sides of the tumour yielded easily to the hand. One or two cysts gave way during this process of exposure and separation, but Dr. Savage kept the abdominal wall so closely pressed against the cysts that all the fluid passed outwards, so that when a sponge was afterwards passed into the pelvic cavity it came out quite clean. It was necessary to tie a superficial varicose vein, which was divided in the first incision. A small

pedicle was secured by a clamp between two and three inches from the right side of the uterus. The left ovary was healthy, but a portion of the left Fallopian tube and broad ligament adhered to the tumour. They were easily separated, and the wound was closed as usual.

She recovered well, and normal reaction came on with but little pain and no sickness. She passed a comfortable night after two small opiates; but the next morning, although she seemed to be going on perfectly well, I noticed a very peculiar, faint, sweetish or earthy odour in the breath, and an irregularity in the rhythm of the pulse, with two or three intermissions in the minute. The rate was only 88 to 96 all day; perspiration was free, and the urine highly concentrated.

Second Day after Operation.—Pulse 96 all day, but still irregular, with an occasional intermission. Neither pain nor vomiting; free perspiration; urine scanty, and very heavily loaded with lithates. Stitches removed forty-eight hours after operation; wound healed.

Third Day.—No change all day; seems very comfortable and cheerful, but the irregularity of pulse is constant.

Fourth Day.—At 12 last night, being rather restless, ten drops of laudanum were given. At 3 A.M. this was repeated. She felt sick, and at 6 A.M. vomited some greenish fluid. At 10 A.M. pulse 100, still irregular; some tympanites. At 2 in the afternoon, as she had vomited again, as the tympanites was increasing, and the clamp becoming depressed, it was removed, after cutting away all the slough above it. The slough sank between the lips of the wound, but seemed to be firmly attached there. At 5 she felt easier, but at 10 the pulse was up to 130; she had vomited again, and was thirsty. The slough had sunk quite out of sight, and there was some dark serous discharge on the bandage.

Fifth Day.—Ten A.M.; pulse 120; more regular; no intermissions; hot linseed poultices applied over the lower part of the wound (the only part not united). Some red serum observed on each poultice, but none appeared at the opening. On passing in the end of the little finger no slough could be felt, and there was no fetid odour on the finger. The aspect was rather jaundiced; the urine very high-coloured; specific

gravity 1032, loaded with albumen, and depositing tube casts, some renal and a good deal of vesical epithelium, with some blood disks, and a large proportion of highly-coloured urates. At 2 P.M. the pulse was 140; she complained of the heat, and the vagina was very hot. The windows were kept open, and hyposulphate of soda was given every two hours, in consequence of the success which had followed its use in typhus in Italy, and its power of checking the fermentative or putrefactive process as proved by the experiments of Polli of Milan.

Sixth Day.—Seemed better after the first four doses of hyposulphate, but the fifth and sixth caused vomiting, and it was not repeated. Half an ounce of saturated solution had been given, further diluted at each dose. Pulse 120, two or three intermissions in the minute. Urine still albuminous and coloured with bile, less loaded with lithates, and containing no blood. Feeling and looking better. Less tympanites. Skin warm and moist. Tongue moist. The dose of hyposulphate was reduced to a drachm of the saturated solution every two hours, and afterwards to half a drachm; but as even this seemed to make her sick, it was omitted. She had a small dark motion in the evening, and a slight uterine epistaxis came on. She took lime water and milk without sickness.

Seventh Day.—Has had a restless night. Pulse 140. Aspect more depressed. Mulberry petechiæ on chest and buttocks. Urine still albuminous, but clearer and more abundant. Rectum and vagina very hot. A most careful examination could detect no evidence of pus in the pelvis or cellular tissue. She continued getting weaker all day, and frequently vomited darkish viscid fluid exactly like the ‘black vomit’ of yellow fever. The pulse rose to 150 and 160, became very feeble, and the respiration laboured, although the mind was quite clear.

Eighth Day.—She died at 5 A.M., having vomited frequently during the night large quantities of the ‘black stuff,’ and having passed just before death a very copious fetid ‘death motion.’ The body decomposed very rapidly; indeed, decomposition may be said to have begun before death.

It is much to be regretted that the body was not examined, but I had made a promise to the patient before the operation

that in case of her death her body should not be examined, and the promise was kept. I heard afterwards that she had been quite sure she should die; had collected money to have her body taken home, and had even made the clothes in which she was to be buried.

CASE LXXIX.

Simple Cyst; Never Tapped; Ovariotomy; Pedicle left within the Abdomen; Recovery.

AN unmarried lady's-maid, thirty-two years of age, was sent to me by Mr. Stowers, of Kennington, on October 15, 1863. I made the diagnosis of ovarian cyst on the right side, nearly unilocular, unattached to the parietes, and arranged that she should come into the Samaritan Hospital for ovariotomy early in November, soon after the cessation of an expected menstrual period. The cyst had only recently been discovered by Mr. Stowers, but she had been getting larger for the last year. She was admitted on November 12, when my previous diagnosis was confirmed, and some attachments to the bladder were suspected, as a hard portion of the tumour could be felt between the bladder and uterus (apparently fixed there), depressing the anterior wall of the vagina.

Ovariotomy was performed on November 16. Messrs. Fowler and Stowers, of Kennington, Dr. E. Day, &c., were present. Dr. Parson gave chloroform. A non-adherent cyst was exposed by an incision four inches long midway between umbilicus and pubes, tapped, emptied of seventeen pints of fluid, and gradually withdrawn, while the abdominal walls were kept closely pressed against the cyst by Dr. Savage. Not a drop of blood or ovarian fluid passed into the peritoneal cavity. The left ovary was felt to be healthy. The cyst was so closely connected at its neck with the right side of the uterus, that it would have been impossible to keep a clamp outside the abdomen without a severe strain on the uterus. I therefore tried the plan of transfixing the broad ligament and tying it in two portions, cutting away the cyst close to the ligatures, cutting off the ends of ligature short, and for

the first time returning the tied stump with the knots and loops of the ligatures into the abdomen, and closing the wound completely, after the plan introduced by Dr. Tyler Smith. I was able to do this, after the separation of a few cellular attachments, without including either the Fallopian tube or the round ligament in the ligatures.

The patient very soon rallied and went on remarkably well, but it was curious that she complained even more than usual of the dragging pain in the back and hip, and the pain down the thigh, generally attributed to the pull of the clamp on the pedicle. There was also rather more abdominal pain than usual, rather more tympanites, and a more rapid pulse than is usually seen when a patient with the clamp goes on well. More opium was required, and was given for a longer time after operation than usual. Indeed, the condition for six days was that of a mild attack of peritonitis of a sthenic form. The urine was highly concentrated, becoming ammoniacal after a few days, and depositing much ropy mucus. There was also a very free leucorrhœal discharge. The wound healed entirely by first intention. The bowels were relieved on the sixth day after operation. The urine began to clear on the eighth day. Convalescence proceeded rapidly, and the report on November 30 was 'quite well.' She is now acting again as lady's-maid, and is in excellent health.

CASE LXXX.

Non-Adherent Cyst; Never Tapped; Ovariotomy; Pedicle Returned; Recovery.

ON the 9th of November, 1863, I saw a young lady with Dr. Fox of New Broad Street. She was nineteen years of age, and had arranged to be married at the approaching Christmas. She had always enjoyed tolerable health, and the menstrual discharge, although habitually scanty, was regular in its appearance. In August she had observed that her dresses were all too tight for her, and she had discovered the tumour only six weeks before I saw her. On examination, I found the girth at the umbilical level to be thirty-seven inches, the distance from the ensiform

cartilage to the pubis symphysis eleven inches, and from the ilium to the umbilicus, eight inches on the right side, ten inches on the left. The lower part of the abdomen was filled with a movable tumour, which extended several inches above the umbilicus, occupying the left lumbar region, and leaving the right loin clear. It seemed to consist of a large fluctuating cyst, which was principally to the right of the median line, and of a number of small cysts to the left. Over these latter, crepitus was to be heard and felt, and there was considerable tenderness on pressure. The uterus was rather high, but quite movable, and the anterior wall of the vagina slightly depressed by the tumour. My diagnosis was, 'Multilocular ovarian cyst'; and I recommended ovariotomy after the cessation of the next monthly period. Dr. Oldham and Mr. Hilton, as well as Dr. Fox, concurred in this advice. Menstruation began on the 14th, and continued till the 19th. On the 22nd, Dr. Fox wrote to say that 'for the last two days the patient had complained of pain in the right side of the abdomen,' a symptom which had occurred before, and had been relieved by colocynth and camphor. Belladonna plaster was applied. On the morning of the 26th November, the operation day, the bowels acted twice; the pulse was 100-120—a state of things evidently due to nervousness. The patient was, however, in good spirits. There were present at the operation, Drs. Oldham, Fox, and Savage, and Mr. Tatum. Chloroform was administered by Mr. Clover. The incision was commenced an inch below the umbilicus, and carried down four inches. There were no adhesions, and the tumour was easily extracted. The pedicle was very short; so short that I transfixated it quite close to the sac, tied in two portions, secured with a third general ligature of silk, cut off short, and returned. The Fallopian tube and the round ligament were both excluded from the ligatures. The left ovary was found to be healthy, and the wound was closed with three deep and six superficial silk sutures.

The patient rallied well, but complained of much pain, so that up to 10 P.M. 120 drops of the solution of the bimeconate of morphia were administered. During the night, four more twenty-drop doses were necessary; the pain complained of was principally in the back; the pulse was 130; the urine free, but loaded with lithates. Next day the pulse continued at 130, but

only one dose of morphia was required. There was a little vomiting ; at 11 P.M. the pulse was 136, and the skin moist. Six ounces of clear urine was drawn off. There was still a good deal of retching, and once a little greenish matter had been vomited.

On the 28th, at 6 A.M., I was called to see the patient, as the vomiting was increasing in frequency, and was greenish. No more opium had been taken, and no urine had been drawn off since eleven the previous evening. I drew off four ounces of high-coloured urine, and gave some strong coffee. This had the effect of stopping the vomiting ; but, as the patient was rather weak, I had some beef-tea and egg injected into the rectum every three hours. No more opium was necessary, and at night the pulse was 116. Next day I removed the stitches, and found that the wound had united throughout. No unfavourable symptoms appeared, and on the 11th of December the patient went home. The catamenia came on that night (it was the proper period), accompanied with pain in the back, but recovery proceeded favourably. The marriage was only deferred from Christmas till Easter ; and she called on me, on her return from her wedding trip, in perfect health.

The following account of the tumour is by Dr. Wilson Fox :

" This tumour consisted of a very large cyst (emptied when sent to me), capable of containing an adult head. At one portion of its interior there was a semi-solid mass, of more than the size of a Seville orange, and which consisted of a very multiple cyst formation.

" The larger cyst presented nothing very remarkable ; the lining membrane was smooth, but crossed here and there with a few thickened bands and trabeculae. The peritoneal surface presented but few traces of adhesions.

" The more solid portion consisted of a mass of cysts, varying in size from a walnut to those of microscopic dimensions. The fluid contained in the greater number of them was clear, but in some there was only a very thick and tenacious " colloid " matter.

" These cysts nowhere presented any villous or glandular growths, but many of them gave off two or three tubular diverticula, by the constriction of which other secondary cysts were formed and imbedded in the stroma. They were all lined by an epithelium, presenting for the most part polygonal cells.

" I think it exceedingly probable that, as Mr. S. Wells remarked to me, this latter portion of the tumour represented the remains of the ovary

in which a process of cyst formation was taking place, both primarily by dilatation of the Graafian follicles, and also that cysts of a secondary order were being formed from them by the process above described."

CASE LXXXI.

Ovarian Tumour; Ascites; Sixteen Tappings; Umbilical Hernia; Prolapse of Uterus and Vagina; Ovariotomy; Death on the Eighth Day.

A WIDOW, thirty-three years old, mother of three children, the youngest seven years old, came from Dudley, and was admitted to the Samaritan Hospital, November 5, 1863, with an ovarian tumour surrounded by ascitic fluid; the integuments at the umbilicus much distended by the fluid and covering protruding omentum; the uterus prolapsed several inches beyond the valva, inverting the vagina, and causing both cystocele and rectocele, the cavity of the uterus measuring six inches. The disease was of about four years' duration, and the patient had been tapped fifteen times since the first tapping two years before admission, the quantity varying from twenty to thirty quarts. She was kept in hospital till the cessation of an expected menstrual period, and well fed. On November 30, 1863, the day fixed for operation, the measurements were,—girth at umbilical level, fifty-two inches; from ensiform cartilage to umbilicus, seventeen inches; from umbilicus to symphysis pubis, ten inches; from ilium to ilium across the front of abdomen, thirty-four inches. Dr. Parson administered chloroform. Mr. Archer, Dr. Eastlake, Dr. Ritchie, &c., were present. An incision was made from the lower border of the umbilical hernia downwards for five inches, and a very thick dense sac was exposed, which was at first taken to be the cyst, as thick ovarian fluid escaped as soon as it was opened. Forty-three pints of this fluid escaped, and then an attempt was made to separate a portion of omentum which was adhering around the umbilical ring. This led to the discovery that the ovarian fluid had been free in the peritoneal cavity, and that the only attachments of the collapsed cyst and tumour, which was of the size of an adult head, were to the piece of omentum which was protruded at the umbilicus. On

separating this, the tumour was easily removed, and a long slender pedicle, after being temporarily secured by a clamp, was transfixated, tied by a double silk ligature, cut off short, and returned. The only bleeding was from four vessels in the separated omentum. One was stopped by torsion; three ligatures were used to the others, cut off short, and returned. The wound was closed by five deep and several superficial silk sutures.

For the first twenty-four hours after operation the voice and aspect were good, but the pulse varied from 112 to 140. There was a good deal of abdominal pain and some vomiting, with scanty secretion of urine and pungently hot skin, varied by occasional free perspiration. On the second day a dark sanguineous discharge came on from the uterus (which had been replaced), and continued all day. On the third day diarrhoea set in, and was relieved by hot linseed poultices; all the stitches were removed, and some dead epidermis was removed from the umbilicus. She said that this desquamation had always followed her tappings. On the fourth and fifth days she was much better, although the diarrhoea continued, and there was a dark foetid discharge from the umbilicus, with a further separation of cuticle. On the sixth day the vomiting and diarrhoea seemed to be ceasing, but on the seventh morning the pulse became more rapid and feeble; she continued to sink all day, and died at night.

A post-mortem examination was made by Dr. Ritchie, in the presence of Drs. Routh and Rogers. Part of the skin which had been distended at the umbilicus had been separated by sloughing, and portions of subcutaneous cellular tissue were also in a sloughy state between the edges of the skin which had been divided at the incision. There was some subcutaneous emphysema between the umbilicus and sternum. On dividing and raising the abdominal wall, the parietal peritoneum was seen to be accurately united beneath the whole length of the wound, and the slough at the umbilicus was perfectly excluded from the peritoneal cavity. The fundus uteri lay on a level between the symphysis pubis and promontory of sacrum. A layer of recent gelatinous lymph formed a sort of arched roof from the sacrum and rectum over the uterus to the bladder and pubes, enclosing about a pint of turbid serum in the pouch of peritoneum.

between the uterus and rectum, and to the right side of the uterus. The pouch was lined by a layer of lymph. There was a good deal of serum in the loose cellular tissue of the pelvis. The right Fallopian tube and part of the broad ligament were surrounded by silk ligatures which had not included the elongated round ligament. The small slough enclosed in the ligatures had been surrounded by two coils of small intestine, which were adherent to each other and to the end of the pedicle. The omentum seemed quite healthy, but at its lower end there were two ligatures which were very close to the spot where the pedicle and intestine were adhering together.

I remarked to the gentlemen who were present at the examination that it was a matter of doubt whether the fluid in Douglas's space was the remnant of some ovarian fluid which I had not thoroughly sponged out at the operation. I thought this probable, as I had not pushed up the uterus from its prolapsed position until the end of the operation. But it was possibly due to the effusion of serum from a localised peritonitis around the pedicle, which serum had gravitated to the most depending part of the peritoneal sac. It was much less likely to be the serum of pelvic cellulitis escaped into the peritoneal sac. If I had made a puncture by the vagina and let off the fluid, as I had done in three other cases, I thought the patient would have had a much greater chance of recovery; but nothing had led me to suspect the presence of the fluid, or to make the examination by which it would have been detected. The case shows the importance of making vaginal examinations when bad symptoms come on after ovariotomy; and, in my opinion, it tells against the practice of leaving the pedicle within the abdomen when it can be kept outside, and very strongly in favour of the practice of uniting the peritoneal edges of the incision. It also teaches us not to conclude at the operation, from the escape of ovarian fluid, that the sac has been opened, because this fluid may be free in the peritoneal cavity, one or more cysts having given way long before. These remarks were published in the report of the case which appeared in the 'Medical Times and Gazette,' May 28, 1864; and subsequent experience has confirmed me in the opinion then expressed.

CASE LXXXII.

Multilocular Tumour; Eleven Tappings; Ascites; Ovariotomy; Pedicle Returned; Death on the Third Day.

I FIRST saw this patient, the wife of a medical friend, on June 19, 1862, three months after an ovarian cyst had been tapped for the ninth time. A multilocular tumour filled the lower part of the abdomen up to an inch above the umbilicus. There were no parietal adhesions, the uterus was quite movable, and the pelvis free. I recommended ovariotomy, but the patient and her husband very naturally preferred to gain time by one or more tappings. I did not see her again until May 13, 1863, when I obtained further notes of the case.

She was fifty-seven years of age, and, although she had been twice married, had never been pregnant. Her complexion was dark; the integumentary, nervous, and respiratory systems appeared healthy; but the patient was evidently dyspeptic. Sometimes her appetite was poor, sometimes ravenous, while flatulence was constant and distressing. She generally lay on her back, finding that posture the easiest. The pulse was occasionally irregular, but the heart sounds were normal. The urine was secreted in normal quantities, but whenever 'she filled' she was troubled with irritable bladder.

The girth at the umbilical level was thirty-nine and a half inches, the distance from the ensiform cartilage to the pubic symphysis nineteen inches, and from the ilium to the umbilicus, on the right side, twelve inches; on the left, eleven. There was a good deal of ascitic fluid present, and there was also a fluctuating tumour reaching several inches above the umbilicus, and extending more to the right than to the left side—thus leaving the left loin clear on percussion, while the note in the right side was dull. There was no crepitus, but a little tenderness was complained of on pressure being made. The uterus was central and freely movable, and no part of the tumour could be detected by a vaginal examination. One of her brothers had died of phthisis.

In 1854, at the age of forty-eight, the patient had ceased to menstruate, and it was not till four years later that she discovered a small tumour in the right iliac region. This tumour

increased in size, and began to cause troublesome symptoms. The bladder became irritable, and the legs benumbed. Iodine and bromide of potassium, tonics, and other remedies were successively tried, and on the 22nd of August, 1860, it was resolved to tap. The operation was followed by great relief, but it was of short duration. The cyst again filled, the symptoms again became unbearable, and on the 1st of December tapping was again had recourse to. It was repeated on the 14th of January, 1861, on the 22nd of March, 19th of June, 4th of September, 15th of November; on the 6th of January, 1862, and on the 10th of March. This last tapping was followed by some symptoms of cyst inflammation.

The patient was tapped once more on the 17th of May, 1863, when twelve to eighteen pints were drawn off. The operation was followed by some symptoms of peritonitis, and the cyst began to refill. On the 22nd of October, 1863, I tapped her, and removed about twenty pints of clear amber tenacious fluid. An irregular tumour, extending slightly above the umbilical level, remained.

My diagnosis now was, ‘Multilocular ovarian tumour, with ascitic fluid in large quantity; pelvis free.’ Life becoming unbearable, she at last became anxious for ovariotomy, and I performed the operation on the 10th of December, 1863, with the assistance of Drs. Wingate Johnston, Wallace of Colchester, Ritchie, and of Mr. H. Wilkin; chloroform being administered by Mr. Clover. The incision was commenced midway between the umbilicus and symphysis pubis, and was carried downwards four or five inches. Before the peritoneum was freely opened, an elastic pipe was introduced by a small aperture, and the ascitic fluid allowed to escape gradually. There were no adhesions, with the exception of a spot no larger than a threepenny piece, where the cyst was attached to small intestine. The pedicle was short, and sprang from the right side of the uterus. I put on a clamp, but the screw slipped after the pedicle had been cut away, and the stump of the pedicle sunk into the pelvis. I seized it immediately, and pulling it along with the atrophied uterus out of the pelvis, transfixated and tied doubly, cutting off short. There was very little haemorrhage. On examining the left ovary, it appeared to contain several small cysts, but I did not think it right to interfere with them. I therefore closed

the wound with five deep and several superficial sutures, leaving the pedicle and ligatures within the abdomen.

In this case the diagnosis was confirmed in every respect. There was deficient reaction after the operation. In the evening, however, the extremities were warm, the pulse 104, and plenty of urine had been passed. During the night there was a little vomiting, but next day the pulse was 96; the voice good, and the urine abundant. At 11 P.M. she began to be restless, and complained of flatulence.

At ten o'clock on the morning of the 12th the pulse was 100. The patient had been restless all night, not complaining of pain, but rejecting everything from the stomach. Beef-tea injections had been given every three hours; they were ordered to be continued. Some sal volatile in soda water seemed to allay the sickness a little. I removed the straps, and found the wound healed, but the abdomen much disturbed with flatus. During the day she sank gradually; the tympanites was temporarily relieved by passing a tube into the rectum. Stimulants were freely administered, but the patient expired at eight on the morning of the 13th, sixty-six hours after the operation. No post-mortem examination was permitted.

On reflecting on this case, I think it would have been better to keep the ends of the ligature out, and thus have secured a drainage of fluid from the peritoneum; but the operation was deferred to so very late a period, and the general health was so broken down, that the probability of recovery would have been small under any circumstances.

The following description of the removed tumour is by Dr. Wilson Fox:—

"The tumour, which is oval in shape, is rather larger than a full sized adult head.

"The peritoneal surface is generally smooth, but a few cysts with thin walls, none exceeding a walnut in size, project on the outer surface. Many large veins are seen under the peritoneum, but the outer surface of the tumour is not so highly injected as some other specimens examined.

"As sent it is partially opened, and appears to consist of two distinct portions, separated by a species of constriction.

"The part already opened consists of a large cyst capable of containing a foetal head at the ninth month. It is covered in its interior with

cysts of all sizes, from that of a Seville orange down to a hazel nut. These cysts have for the most part very thin translucent walls. Many of them are single, but others are multilocular, or in clusters and groups of four or five, forming irregular excrescences in the interior. In some the septa are persistent, in others they have disappeared. In some few cases many small cysts may be seen forming in the septa.

" These cysts contain a clear, transparent fluid; but a few, some of which are larger than a hazel nut, contain a thick tenacious matter, like that of Case 62. All these cysts are sessile upon broad bases, and lie scattered over the internal surface of the large containing cyst at irregular intervals, some being closely grouped, while there are comparatively wide spaces between others. The cysts, even those with the thinnest walls, are highly injected, and those described as containing a viscous fluid are especially so, as are also portions of the wall of the parent cyst upon which no secondary cysts are situated. These latter portions of the wall are traversed by bands and septa in various directions. Here and there the surface is velvety, like that previously described, when it was found lined with epithelium, and with semi-solid granular excrescences similar to those to be more fully described hereafter. In other parts it has a bare, glistening aspect, and in some places opaque, white, gritty spots of calcification have already appeared. On the more velvety portions a very thick tenacious mucus adheres. This mucus is found by the microscope to consist of irregular masses of round and cylindrical epithelial cells, which in many instances retain the form of glands or the outlines of villi.

" B. The second portion of the tumour, is also about the size of a large foetal head, and feels very solid when pressed. The peritoneal surface is rougher, thicker, and more opaque and uneven and granular than that of the other half, and is more irregular in outline from the projections of cysts from the interior. When cut into it is seen to be more highly injected in every part, and may be described as consisting of six or eight large masses which represent agglomerated clusters of smaller cysts. These latter are very numerous. Their septa and walls are irregularly broken down, and give the whole of the interior an irregularly reticulated and loculated appearance. The contents of nearly all these differed greatly from those of the thin walled cysts described in the other half of the tumour. They consisted of a thick, glairy, tenacious substance, bearing a close resemblance to highly inspissated bronchial mucus. This was opaque and excessively viscid, so as only to be removed with difficulty from the interior, and here and there it was stained of a dark brown colour, probably due to effusion of blood. It contained spherical and columnar cells, more or less fattily degenerated, granular cells and free oil globules.

The septa were thicker, and but few traces of fatty degeneration could be found in them, and none of the dirty-looking brownish masses described in the tumour of Nov. 30 could be seen.

Chemical examination of fluid in thin-walled cysts of portion A.

Contents varied in density, some very slimy and tenacious, others almost perfectly fluid, and between these all intermediate stages may be found.

Average fluid, moderately limpid, very slightly opalescent, contains but few flocculi, sp. gr. 1015.

Reaction strongly alkaline.

1. Boiling gave marked precipitate, without addition of acetic acid.

2. Acetic acid. No precipitate in the cold or in boiling.

3. Ferrocyanide of potassium gives, in solution with acetic acid added, *a marked precipitate*.

4. Hydrochloric acid gave a precipitate soluble in excess. In this solution of ferrocyanide of potassium gave a precipitate.

5. Bichloride of mercury. No precipitate.

6. Sulphate of copper. A precipitate soluble in excess.

7. Neutral acetate of lead. Hardly any precipitate.

8. Basic acetate of lead. A marked precipitate.

9. Alkaline salts in solution gave no precipitate, either with or without the addition of acetic acid.

CASE LXXXIII.

Ovarian Tumour; Crural Phlebitis; Ovariotomy; Both Ovaries Removed; Death on the Third Day.

ON June 2, 1862, I saw a married lady, thirty-four years of age, with an ovarian tumour which had led to an increase of the size of the abdomen resembling an eight months' pregnancy. The uterus was small, far back, and independent of the tumour, which could be felt freely movable in front of the uterus. The catamenia were regular, but scanty. She had been married nine years, but had never been pregnant. She had been quite well until four or five years after marriage; she then began to have pains low down on the left side with dysuria, and Dr. Protheroe Smith detected a tumour. Two years before I saw her she began to suffer from neuralgia in the right leg, and eighteen months later in the thigh also. Her chief complaint when she

came to me was this incessant wearing pain in the leg and thigh. Notwithstanding some œdema, this limb was much smaller than the left. A course of Kreuznach water at Brighton, with warm sea-water baths and an aconite liniment, was followed by great relief to the neuralgia. Her general health improved, and in July, 1863, the pain had entirely ceased in the thigh, although it recurred in the leg at the monthly periods. In October, after riding on horseback, an attack of circumscribed peritonitis came on, and this was followed by dangerous crural phlebitis, for which she was most assiduously and ably treated by Mr. Scott. After her recovery she returned to town, and the question of ovariotomy was carefully considered with me by her old family attendants, Dr. Cahill and Mr. Archer, and it was arranged that the operation should be done without further delay.

The catamenia came on on the evening of December 4, 1863, being exactly a month from the last period, and the operation was accordingly postponed till the 12th, when it was performed in the presence of Dr. Grimsdale of Liverpool, Dr. M'Ever of Cork, Dr. Cahill, Dr. Ritchie, and Mr. Archer. Chloroform was given by Mr. Clover. The incision was commenced at the umbilicus, and carried downwards five inches. There were no adhesions. The omentum lay between the cyst and the abdominal wall, but it was quite free. I pushed it aside, and tapped a cyst, emptying it of six to eight pints of fatty fluid like gruel. I then pulled the cyst out, but at this moment chloroform vomiting took place, some of the small intestines escaped, and were replaced with some difficulty. The pedicle sprang from the right side of the womb. It was so short that I was obliged to transfix it and tie, leaving the ends of the ligature hanging out. The pelvis was now found to be filled with another cystic tumour, evidently belonging to the left ovary. I tapped it, got away some cheesy-looking matter, and succeeded in getting it, along with the uterus, out of the pelvis. I then transfixed and tied the pedicle. The wound was closed with five deep and several superficial sutures, and the ligatures were left hanging out above its inferior angle.

The patient rallied well; there was a good deal of pain, which was relieved by opium, and at 7 four ounces of urine were drawn off; at 11 the pulse was 104, rather feeble, and there

was a little vomiting. She passed a quiet night; there was free perspiration, and a tolerable flow of urine. At 3 P.M., on the 13th, she was rather flushed, and the vomiting still continued; and at 7.30 the pulse had risen to 120; there was no discharge from the wound. The treatment consisted in the exhibition of stimulants and opiates; ice being freely given, with the hope of allaying the vomiting. The second night was passed in tolerable comfort, but next morning she was no better. The pulse was 128, the skin and vagina hot and dry, and the breathing oppressed. During the day there was no pain, and a little highly concentrated urine was passed at intervals, almost involuntarily; at 3 P.M. vomiting recurred, after the patient had taken a little cold beef tea; at 9, the pulse was 128, the skin hot, and the breathing oppressed. I thought of taking a little blood, but did not do so on account of the extreme compressibility of the pulse. ‘Spasm’ at the epigastrium was complained of. I removed two of the deep sutures, and passed a tube into the rectum, which gave passage to some flatus, to her great relief. During the night the pulse got quicker and became intermittent, and stimulants were administered very freely; about 5 A.M. she begged to be turned on her side, when a good deal of reddish serum escaped from the wound; at 10 A.M. the pulse was 150, very feeble. I changed the bandage, which was soiled by the discharge, and removed the three remaining deep sutures. The upper part of the wound was quite healed. At 3 P.M. there was a little more discharge from the wound; it was favoured as much as possible. The hands were cold. At 6 the radial pulse had a ‘double flutter,’ the perspiration free, the respiration sighing, twenty per minute. At 6.30 the patient was sinking into a deep sleep, the hands and feet were icy cold, and the lips were blue. On arousing her she answered questions coherently, and then dropped off again. By degrees it became more difficult to rouse her, and at 9 P.M. she was gone. No post-mortem examination was permitted.

The case is interesting as to the diagnosis, for it shows that both ovaries may be extensively diseased, even although the catamenia be regular.

The following is the report made by Dr. Wilson Fox on the tumours:—

A. (left side.) An irregularly round tumour of the size of a medium-sized English melon.

The external surface is smooth and glistening, except at one part, where a layer of recent lymph is seen over an area of about three inches. About ten or twelve small cysts of the size of walnuts project under the peritoneum. Most of these have very translucent walls. Their contents also are clear, resembling the fluid described in previous tumours.

In the pedicle where cut off is seen one small cyst, the contents of which are deeply stained with blood. In addition to these small cysts under the surface, the tumour is found to consist of five main cavities, nearly equal in size, which is on average about that of a Maltese orange. They present some peculiarities which require a separate description.

a. A cyst with smooth glistening walls, which, with the exception of one or two very small granular excrescences, are lined by a smooth membrane consisting of comparatively small epithelial cells of an hexagonal shape. It contains a *thin* dirty-looking greenish grey fluid, in which are numerous granules of fat and crystals of *cholesterine*.

β . A larger cavity than the preceding; contents, a thick, slimy, tenacious matter of dirty yellow colour, in which are lumps and masses of fattily degenerated cells (but no cholesterine seen). These lumps and masses arise from and adhere to granular elevations and villous excrescences which are seated in the wall, and, springing from it, project into the interior in rounded irregular masses of the size of a pea, bean, or hazel-nut. The basis of attachment of these masses are in diameter nearly equal (in the greater number of cases) to the greatest breadth of the masses themselves. In some places the lining membrane for an area of from $\frac{1}{2}$ in. to 1 in. square is covered with fine nodulations of from 1 to 2 lines in vertical depth, sessile on, and springing from the wall. These growths are very vascular, as also is the lining membrane from which they spring. They greatly resemble the unhealthy granulations from a wound. In other places where the wall is smooth and shining, it is singularly striated with yellow lines of an ochre tint, which result from a fatty degeneration of the tissue of the lining membrane. These frequently coalesce and cover patches of an area of from 1 to $1\frac{1}{2}$ inches in extent.

γ . A cavity whence, when opened, there issues a teacupful of thick fluid of a dirty yellow colour resembling pea-soup, or a typhoid evacuation. It is very viscid, and resembles that of (β) in having in suspension masses of a cheesy-like matter which is very greasy to the touch. This fluid contains cells, granular matter, and free oil globules, but no cholesterine. The fluid contains histological elements similar to those before described.

The inner wall of this cyst presents a series of small prominences and

irregular granulations, similar to those described before; but in addition to this, over a patch which is somewhat irregular in shape, but of an area of about two inches in diameter, the surface, besides being granular, is highly and minutely injected, and further is dotted with yellow spots and films like false membrane, which partly adhere firmly to the wall so as to be almost irremovable, but in other places can be stripped off like a croupal false membrane, leaving a denuded opaque white surface beneath, which presents a marked contrast to the appearance of the epithelial-covered membrane around.

Close to this spot there is an area of about $1\frac{1}{2}$ inches in diameter, where the lining membrane is thickened and projects as a patch above the level of the surrounding tissue.

δ. A cavity of the size of a large American apple presenting the same appearance as the former, but with this difference, that whereas the granulations in the cysts before described present as a rule very little vascularity, this one is uniformly and excessively injected. The contents, which were evacuated before I received the tumour, appear to have been similar to those of the other cysts of this specimen.

ε. Another similar cavity, of about twice the size of a walnut, has similar contents, but contains two large granular masses which occupy a great portion of its interior. These are pale and present very little appearance of vascularity.

The septa between these cysts are at least $\frac{1}{8}$ and in many places $\frac{1}{4}$ of an inch in thickness, and nowhere in the septa are there any appearances to the naked eye of secondary cysts forming, or of perforations from one cyst to the other. The granulations always begin as semi-translucent, but apparently solid spots in the wall, and by their aggregation produce large masses. The smaller cysts seen under the peritoneum are nearly all quite superficial, and most of them have thin watery contents.

The yellow or horny spots are seen when cut through to be affections solely of the lining membrane of the cyst.

B. (right side.) A single sac, capable when distended of containing an adult head. It was empty when sent to me, but the remains of its contents appear to present the same pea-soupy matter as those described in the last specimen.

This tumour is very vascular externally, the veins coursing immediately below the surface are very large, and the tissue is further mottled with very fine injection and numerous haemorrhagic spots. In one or two places the external wall is thickened and prominent, and is of almost cartilaginous hardness. The lining membrane corresponding to these spots appear to have undergone similar changes (to be described

further on). Only two or three cysts are seen through the outer wall. Some of these are larger than a walnut and have for the most part clear contents.

On opening out the interior it presents one large sac in which no secondary cysts are seen, except the two or three mentioned in the outer wall; but almost the whole of the lining membrane presents a highly vascular and finely villous appearance, resembling the pile of coarse plush when floated out in water. This is seen to depend on a series of minute villi, many of which without this means of examination look nearly like flattened granulations. (The same was found to be true of many parts described as granulations in the cysts of tumour A.)

The whole of the highly injected lining membrane is crossed in all directions by lines and striae of an opaque yellow or whitish and rather firm tissue. None of these lines which thus form a network over the interior have a greater breadth than $\frac{1}{16}$ of an inch. Sometimes, however, instead of presenting striae there are seen small patches, dots, and islets of the same appearance, which occasionally cover considerable tracts of tissue. The white patches then look like exudation films, but they cannot, except in comparatively rare cases, be separated from the tissue below. In one or two places these white patches present an area of $1\frac{1}{2}$ inch in diameter, raised for at least $\frac{1}{20}$ of an inch above the level of the surrounding membrane; a great deal of pigment surrounds these large blotches. The whole of the walls of the cyst are greatly thickened in these places, and these patches correspond to the spots of cartilaginous character noted in the peritoneal covering.

At one spot there is a large vascular growth of the size of a large Tangerine orange, broadly lobed, and sessile on a broad base which is equal to the greatest diameter of the growth. The lobes, which are nine or ten in number, pass for a variable depth into the tumour, some of them reaching nearly to the base, others ending more superficially. The surface of this growth is glistening and translucent, but intensely injected. It is covered by a thin slimy mucus. Around its base is a series of smaller vascular growths, varying in size from a hemp-seed to that of a bean. On letting a stream of water flow both on the larger cauliflower-like growth, and also on these, the surface of all is seen to be covered with an exquisitely fine villous growth, the villi being long, set thickly together, and highly injected.

Closely adjoining the growth last described, are a series of masses of different appearance. They appear at their bases to have a structure similar to those last described, but they are covered with, and in most cases more or less completely converted into masses like rotten cheese, which, however, vary somewhat in consistence.

Their size, also, varies from that of a millet-seed to a horse bean. Some adhere with considerable tenacity to the tissue below; in other cases the degree of adhesion is slighter. These masses are found by

microscopic examination to result from a fatty degeneration, *en masse*, of the large granular prominences before described, and different stages of this process may be seen in the same specimen, from places in which only the superficial layers are invaded, to those where the whole structure is broken down. Smaller papillary prominences usually surround these structures, and by virtue of the growth of these, the area of the larger tumour tends constantly to increase, though their decay by the process of fatty degeneration just described seems to be generally rapid.

When the breaking down and fatty degeneration has reached the lining membrane, it appears to extend through this, and there is left a red, highly injected haemorrhagic-looking surface, covered here and there with a thin film (of exudation matter?). Before this stage is reached the thickening of the peritoneum has already commenced; a process which seems to be for a time the only bar to perforation of the wall by the degeneration proceeding from within, which closely resembles a rapid necrobiosis. Then follows the thickening in the stroma, beneath the peritoneum, and extending to the internal surface which has been described before.

The contrast of all the different appearances now described gives the lining membrane of the cyst a mottled look, which is very peculiar.

Just at the base of the large growth just described, a very peculiar condition was found. Feeling some fluctuation on the outer surface of the cyst opposite this growth, I cut through the outer wall, and found a cyst capable of holding a Maltese orange, from which a small quantity of peasoup-like matter escaped. This cyst was almost entirely filled with a series of irregular vascular prominences like those just described in the larger cysts. They grew from all the walls of the cyst *except* the inferior one (which last corresponded to the base of the larger cauliflower growth in the larger cyst). These growths were all in more or less advanced stages of fatty degeneration. There was no continuity whatever between them and the vascular growths in the parent cyst, for a distinct septum divided this cyst from the growth below, and the capsule was everywhere entire. The lining membrane of this secondary cyst was perfectly smooth where it adjoined the parent cyst, and in fact this was almost the only part not covered with these papillary excrescences.*

* A further description of these growths, and of some small secondary cyst-formations taking place in them, will be found in a paper by Dr. W. Fox, 'On the Cystic Tumours of the Ovary,' in the Med. Chir. Trans. 1864.

CASE LXXXIV.

Non-adherent Cyst; Never Tapped; Ovariotomy; Prolapse of Pedicle; Recovery.

ON February 3, 1864, I saw an unmarried lady, twenty-three years of age, who had lived all her life in Yorkshire, and for seven years had been attended at intervals by Mr. Stretton of Beverley. Her complexion was pale, the temperature normal, and the digestive and nervous systems in good order. The chest was resonant on percussion. Air entered both lungs freely, but respiration was coarse, and expiration prolonged. The pulse was 72, and the cardiac sounds normal. The girth at the umbilical level was thirty-seven inches, the distance from each ilium to the umbilicus eight inches and a half, and from the ensiform cartilage to the pubic symphysis fifteen inches.

A flaccid tumour was felt to fill the abdomen, and reach to within two or three inches of the ensiform cartilage. When the patient was on her back the whole of the lower part of the abdomen was dull on percussion, except on the right loin; but when she was turned over on the right side the left loin was also clear. There was no crepitus nor tenderness on pressure. The catamenia were regular, and there was no history of sudden suppression; the discharge had always been very free. The uterus was rather high and far back; it was central and quite movable; the os was virginal. The anterior wall of the vagina was slightly depressed. The patient had first noticed her abdomen increase in size about three years before I saw her; the increase was very gradual, and the only symptom at all troublesome was shortness of breath. She spent the winter of 1862-3 at Pau. In the spring of 1863, Mr. Paget saw her, and in August of the same year he and Dr. West both examined her, recognised the true nature of the disease, and spoke of ovariotomy as the only remedy.

I advised ovariotomy, and the operation was performed on February 8, with the assistance of Dr. Savage, Mr. Stretton, and Mr. Pierce. Dr. Parson gave chloroform. The operation was as simple as possible. A non-adherent cyst was removed through an incision only four inches long, without any exposure of the intestines. There was no haemorrhage. A pedicle of the breadth of two fingers, about three inches long, was secured by

a very small clamp, and fixed outside without traction. The wound was closed by deep and superficial silk sutures. The left ovary was healthy.

The case was instructive in respect of diagnosis in showing that the right iliac region may be clear on percussion, although the right ovary is the seat of the disease. The clearness in the left loin when the patient was turned on her right was due to the free mobility of the tumour. The cyst removed was a simple one; it contained sixteen pints of fluid. The patient rallied well after the operation, and for the next four days progressed very favourably. On the 13th, there was a slight tendency to prolapse of the pedicle, and I consequently removed the clamp. On the 18th, the catamenia came on, and one to two drachms of pus escaped just above the pedicle. The prolapse of the pedicle was now very considerable; it projected nearly an inch above the skin, and extended laterally one inch and a quarter. On the 21st Dr. Parson gave the patient a little chloroform, and I transfixated and tied the pedicle doubly, securing the whole by a third ligature. In the evening there was a little oozing of dark bloody fluid, apparently menstrual, along the course of the ligatures. During the next week or two some flabby granulations about the pedicle were touched with caustic. The ligatures came away on March 7, and the patient was soon quite well, and has remained so.

The following is Dr. Fox's report of the cyst:—

The tumour, which is rather larger than an adult head, consists of one large sac. Only one other cyst is found in this tumour. This projected under the peritoneum, and was only $\frac{1}{2}$ of an inch in diameter. The peritoneum generally smooth, except in a few cases where adhesions had occurred.

The wall of the cyst below this is separated into two layers, one, the inner, reddish white, succulent, and fleshy looking, though firm and somewhat crisp in section; the outer white and fibrous, and easily splitting into laminae. This layer tears with great difficulty, and presents a firm fibrous texture. The inner consists of delicate loose areolar texture, and some fusiform fibres.

Lining membrane everywhere pale, and has everywhere a smooth, shiny, velvety appearance. It is here and there slightly mammillated, but there are no trabeculae crossing the inner surface.

The epithelium in most parts consists of one, but sometimes of two or three layers, but never exceeds three layers in thickness.

No glands or villi are discernible in the outer surface.

CASE LXXXV.

Multilocular Ovarian Tumour; Once Tapped; Prolapsus of Uterus and Vagina; Ovariotomy; Recovery.

A MARRIED woman, forty-one years of age, was sent to me by Dr. Whitehead of Manchester, and Mr. Melland of Rusholme, and was admitted February 2, 1864, into the Samaritan Hospital, with a large ovarian tumour, prolapsus of uterus and vagina, irritable bladder, and some œdema of legs. The prolapsed surface of uterus and vagina was much ulcerated. She had been tapped once in January, a few days before admission. She was kept for more than three weeks on good diet, and to allow the menstrual period to pass over, and ovariotomy was performed on February 29. Dr. Keith of Edinburgh was among the visitors. Dr. Parson administered chloroform. An incision nine inches long was made from just below the umbilicus to two inches above the pubes. The tumour was surrounded by viscid fluid. One long firm band of adhesion was secured by a clamp and divided. A pedicle of the thickness of two fingers was secured by a small clamp, between two and three inches from the side of the uterus, and the ovarian tumour was removed entire. The clamp on the band of adhesion was removed, one vessel tied, and the ligature cut off short. The prolapsed uterus was pushed up, all fluid was carefully sponged out of the peritoneal cavity, the pedicle and clamp fixed outside, and the wound united by deep and superficial silk sutures.

The recovery was almost uninterrupted, the only trouble arising from cough, which led to repeated prolapse of uterus, notwithstanding the pressure of sponges and bandages. The clamp came off on March 8, and she was discharged on the 24th. She called on the 31st, and has been heard of since her return to Manchester in excellent health, cured not only of the ovarian tumour, but of the uterine and vaginal prolapse.

The following is Dr. Fox's report of the examination of the tumour :—

Tumour irregularly globular; weighs 7lb. $3\frac{1}{2}$ oz. External surface generally smooth; pedicle, which is broad, contains portions of the Fallopian tube. There are a few cysts projecting on the external

surface. There are some spots exteriorly, which are deeply injected; others are opaque and leathery-looking.

External wall is from $\frac{1}{6}$ to $\frac{1}{4}$ inch in thickness. It is separable into two layers (similar to that of February 9th).

Vessels are very numerous. Arteries are large and corkscrew-like.

On opening the tumour, it is seen to be entirely made up of a mass of thin walled cysts. There are comparatively few simple cysts, which are bounded externally by thicker walls. The secondary cysts fill the whole of the tumour. Few of them are larger than pomegranates. Their walls are everywhere thin and translucent. They fill the cavities of what appear to have been originally larger cysts, bounded externally by the walls of the tumour, so that a section in any direction at once opens into a number of secondary cysts. These are very irregular in shape and size, and their walls in many places adhere to those of the external covering. The few large cysts under the outer wall are lined by a velvety membrane and are crossed by numerous trabeculae. Here and there smaller cysts, of the size of a walnut, hang like grapes by small pedicles from the inner wall of the larger cysts. The walls of all these are very thin and transparent. They are interlaced in the most complicated manner, each cyst containing others, either projecting into it or hanging from their outer walls; and in the septa between them are variously shaped openings, the result of flattened cysts or of irregular cavities presenting the same thin walls, and giving exit to fluids of the same character as that found in the rounder forms of cysts.

The contents of all are perfectly clear and transparent. The fluid contained in all cases much resembles white of egg, being glairy and very tenacious, and in some cases being almost semi-solid and very like the vitreous humour of the eye.

No cheesy or soupy matters are found in them, but a few opaque lines are seen here and there in the fluid, which on examination are found to consist of fattily degenerated epithelium. The cysts are variously lined, the epithelium being in some cases large and round, in others flattened.

On examining some of the cysts in the denser parts of the wall, they are seen here and there to give off offsets leading to blind cavities lined by a cylindrical or spheroidal epithelium, continuous with and similar to that of the cysts with which they communicate.

In a few cysts scattered and sometimes clustered villous growths could be found, but these were not common, and no glands could be seen anywhere.

CASE LXXXVI.

Large Ovarian Tumour; Three Tappings; Ovariotomy; Pedicle Retained; Secondary Faecal Fistula; Recovery.

ON March 6, 1864, I saw a married lady, fifty-seven years of age, in consultation with Dr. Playfair, and at the request of Mr. Teale of Leeds. She was the mother of eleven children, the youngest of whom was sixteen years of age.

The girth at the umbilical level was fifty-three inches, the distance from the ensiform cartilage to the pubic symphysis twenty-seven inches, and from the ilium to the umbilicus on the right side sixteen inches, on the left seventeen. A fluctuating tumour was found to occupy the lower four-fifths of the abdominal cavity, extending several inches above the umbilicus, and filling the left iliac and left lumbar regions completely, but leaving a clear space on the right side. The mobility of the tumour was only partial, and the integuments covering it were very oedematous. There was tenderness on pressure only over the upper border of the tumour. The uterus was high, central, and quite movable; but the anterior vaginal wall was slightly depressed. The patient came of a remarkably healthy family; her father died at the age of seventy-one, her mother not till she had attained her eighty-fourth year. She had begun to menstruate at the age of sixteen, and had left off four years before I saw her. Two years later she had been attacked with inflammation of the bowels, but Mr. Teale could detect nothing more than a slight abdominal fulness which he attributed to fat. For the next twelve months she enjoyed very good health, but in April 1863 she was knocked down by a dog, and after that the abdomen had enlarged rapidly. In July 1863 there were symptoms of circumscribed peritonitis, and these symptoms reappeared at intervals during the next eight months.

In August Mr. Teale tapped, and twelve quarts were removed. The operation had to be performed again in November, when eleven quarts were evacuated, and a third time in February 1864 with a like result. The colour of the fluid varied at each tapping, being darkest at first. At a second visit, Dr. West joined Dr. Playfair in consultation with me, and we gave the unanimous opinion that with tapping the patient was not likely

to survive the year, while with ovariotomy the prospects of failure and success were evenly balanced. Ovariotomy was decided upon, and I performed it on March 10, in the presence of Drs. Koepl, Parson, Playfair, Ritchie, and Savage; chloroform being administered by Mr. Clover. The incision was commenced one inch below the umbilicus, and carried downwards five inches. The adhesions to the anterior parietes were trifling. A large cyst was emptied, and then several smaller ones were broken down. An adhesion to a piece of omentum was temporarily secured by a Smith's haemorrhoidal clamp, and it was then found that the tumour adhered so closely to the left iliac fossa that it was impossible to separate it safely; I therefore secured the adherent part for the moment with a clamp, and then cut the cyst away. On examining the proper pedicle of the tumour, it was found to spring from the right side of a very large uterus. It was about an inch long, and I thought it best to transfix it, tie each half separately, envelope the whole with a third ligature, then cut off short and return. There was a good deal of haemorrhage during the operation. At the very first cut, before the peritoneum was opened, a large vein began to bleed, and had to be tied on each side. After the peritoneum was opened, another parietal vessel required a ligature; then the omentum, which had been temporarily secured by a clamp, had to be tied, the ligature being cut off close; and, lastly, there was a little general oozing, which, however, ceased spontaneously. The portion of cyst which had been left adherent to the left iliac fossa and sigmoid flexure of colon, I transfixed and tied, leaving the ends of the ligatures hanging out of the lower angle of the wound. The left ovary could not be distinguished on account of the adhesions. The wound was closed with three deep and four superficial sutures.

After the operation there was a good deal of pain and faintness, but no vomiting; the pulse at 11.15 p.m. was 96, and plenty of urine had been drawn off. During the course of the next day the pulse rose to 120; at night it was 116, but there was much faintness and pain in the back. Stimulating enemata were had recourse to, and laudanum was rubbed in over the painful spot. The patient passed a fair night, and on the morning of the 12th was better. She continued comfortable all day. In the evening I changed the cotton wool, and found

a good deal of tympanites ; flatus, however, passed freely by the anus ; the pulse was 96, and of fair volume. At three A.M. the next morning, considerable pain was complained of in the left iliac region ; the pulse fell to 60, and intermittent every third or fourth beat ; the pain was relieved by the local application of laudanum, and the pulse rose on the administration of food and wine. During the day the patient ate two mutton chops with relish, but at night the pain in the left flank still continued. There was no discharge from the wound ; the urine was abundant and high-coloured, and the skin warm and moist. Next day I removed the sutures, when from two to three ounces of dark-red sero-purulent but non-fœtid matter escaped from the wound. For the next three days, the patient steadily improved ; the wound was dressed morning and evening, about one ounce of matter being discharged daily. On the 17th the ligature of the superficial vessel came away. On the 18th the bowels were spontaneously moved, and for the next five or six days the bowels acted freely every day, latterly rather much so. Any pull upon the ligatures caused pain to shoot down the left groin. On the 31st urine was passed without assistance. The patient gradually gained strength, and on April 14 left for Leeds, the ligatures still in situ, and slight discharge escaping from them.

She bore the journey well, and improved up to May 6, when she over-exerted herself, and had a smart attack of bilious fever. The discharge along the ligature became freer, and, according to Mr. Teale, for two days it was feculent. The attack passed off, and on May 31 the ligatures came away. After this she considered herself as well. She came to London in October, and except a very slight oozing of pus from the lowest point of the cicatrix, appeared to be perfectly well.

The following account of the tumour removed is by Dr. Wilson Fox :—

Tumour evidently of considerable size, now collapsed, from two to three times the size of an adult head. No traces of Fallopian tube on external surface.

External surface smooth, little vascularity externally, with exception of a few patches of firm injection. But few large veins on surface.

Tumour consisted of three large cavities, and two or three groups of multilocular cysts.

One of the large cavities would hold an adult head. The other two

were about $\frac{1}{3}$ of this size. The masses of multilocular cysts were almost entirely limited to one portion of the tumour, and formed about $\frac{1}{4}$ of the whole mass.

The larger cysts were emptied when presented for examination ; they appeared to have contained a somewhat tenacious mucus which in parts adhered strongly to walls. The largest opened by several irregular cavities into groups of cyst forming the more solid portions of the tumour, but with the exception of this mass there were few large cysts at any other part of its inner lining ; only two groups being seen, the largest of which was of the size of an orange, and projected into its interior by a narrow pedicle.

The cysts comprising this mass were very complex, thin-walled, and contained a clear, semi-transparent, thick, and very tenacious fluid.

The lining membrane of all the thin-walled larger cysts was highly vascular. Their interior was thickly crossed by bands, or rather by elevations marking the sites of the septa of former cysts which have disappeared. It is, for the greater part of its extent, thickly covered by highly injected, fine villi.

There were in addition numerous large patches where the lining membrane had lost its epithelial covering, and where the wall itself had undergone a change almost precisely similar to the atheromatous change of the lining membrane of the aorta.

In addition to this the walls of all these three larger cavities were thickly covered with masses of villi and glands, and with small cysts varying in size from a millet-seed to a hazel-nut. The side of the largest cyst, where it communicates with the more thickly grouped multilocular masses of smaller cysts which form the other portion of the tumour, was very irregular. Here and there hung ragged masses of broken-down septa in a state of fatty degeneration, while groups of cysts had undergone the same change, and formed lumps of fatty and cheesy matter.

Those which had not undergone this change were found to present on their inner wall masses of villi, glands, and secondary cysts similar to those observed in the interior of the larger masses.

CASE LXXXVII.

Multilocular Ovarian Cyst; Never Tapped; Ovariotomy; Recovery.

AN unmarried dressmaker, from Yarmouth, twenty-three years of age, was sent to me by Dr. King of Savile-row, as a favourable case for ovariotomy, and was admitted into the Samaritan

Hospital. The growth of a multilocular ovarian cyst had been rapid, and she had not been tapped. Ovariotomy was performed on March 14. Dr. Koepl of Brussels, Dr. Hazenfeld of Pesth, Dr. Druitt, &c., were present. An incision, four inches long, made downwards from one inch below the umbilicus, exposed a non-adherent cyst, which was tapped, emptied, and withdrawn. The pedicle was of the thickness of three fingers, and a long expansion of the right broad ligament ran up between the Fallopian tube and the cyst wall, greatly increasing the difficulty of surrounding the pedicle. But after transfixing the broad ligament, and then tying and dividing it, the pedicle was secured by a small clamp close to the cyst, and the ligatures were tied to the clamp, the whole of the strangulated parts being fixed outside. The left ovary was found to be healthy, and the wound was closed by silk sutures. Nine pints and a half of fluid were collected, and the mass of small cysts weighed about three pounds.

She went on remarkably well. The clamp was allowed to remain till it came away spontaneously on the fourteenth day, and the patient was discharged well on April 4, exactly three weeks after operation. She has since enjoyed excellent health.

Dr. Wilson Fox's account of the cyst is as follows:—

A rounded tumour, with few external prominences, only a few thin-walled cysts of size of hazel-nut project externally.

Size about $\frac{1}{3}$ larger than adult head. Outer surface smooth. Fallopian tube non-adherent.

Consists chiefly of one large cyst, containing a few multilocular groups.

The inner wall is marked by numerous thickenings in form of bands, but it has in addition in many parts a finely trabeculated appearance from elevations of stroma which are not more than $\frac{1}{12}$ to $\frac{1}{24}$ of an inch in thickness and height, but forming over certain parts a filmy rough appearance as of a muslin net laid on surface, the meshes of which are very fine, not exceeding $\frac{1}{12}$ inch in diameter. The surface is here covered with a stratified epithelium, the upper layers of which are columnar, the deeper polygonal. Among these are found patches of a denser tissue and fine villi. These latter do not, however, extend over a large surface. The greater part of the under lining of the cyst is smooth, pale, and covered with a single layer of stratified epithelium.

Scattered here and there on surface, especially in parts where it is more vascular and villous-looking, are groups of smaller cysts, some of

the size of millet-seeds, and others of a hazel-nut. Some of them are already fattily degenerated.

There are only two or three larger masses of cysts in the interior, but the structure of these is very complex. The wall over them is very thick, but in it are flattened cysts which separate it into layers, and in it also are small, dense groups of thin walled cysts, some of which project externally.

CASE LXXXVIII.

Large Ovarian Tumour; Three Tappings; Ovariotomy; Recovery.

ON February 5, 1864, I went to Worthing to see an unmarried lady, at the request of Dr. Collet, who told me that she was forty-three years of age, that, ten years previously she had been successfully treated by Dr. Golding Bird for amenorrhœa, and that since that time the catamenia had been regular; that the abdomen had commenced increasing in size early in 1863, that five months ago tapping had become necessary, and that the operation had been repeated five weeks before I saw the patient.

I found the abdomen entirely filled by a fluctuating tumour. The girth at the umbilical level was forty inches; the distance from the ensiform cartilage to the pubic symphysis, nineteen inches; from the ilium to the umbilicus, on the right side, eleven and a half inches; on the left, twelve and a half inches. None of the cyst was to be felt from the vagina; the uterus was low down, and tolerably movable; the cervix was soft, and the os open. My diagnosis was 'Multilocular ovarian cyst; abdomen too tense and respiration too much oppressed for further diagnosis.'

I tapped one inch and a half below the umbilicus, and drew off a pailful of dark-coloured fluid. When nearly all the fluid had been evacuated, I felt something thrust by her sobbing respiration against the canula, and some blood, almost pure, came through the tube. There was a little pain after the operation, but it soon ceased. On February 18 I wrote, in

reply to a letter from Dr. Collet, requesting my prognosis of the case—

' 1. If let alone or tapped, she can hardly be expected to live six months. 2. Tapping with much bloody fluid is always very dangerous. 3. No local conditions of adhesions, either abdominal or pelvic, exist, which would make ovariotomy more than commonly hazardous. 4. Risk of death and hope of recovery about equal. 5. Fears of ill result rather based upon appearance and nervous temperament, leading to doubts of constitutional vigour, than on any local condition.'

On March 25 Dr. Collet wrote asking me to fix a day for the operation, and I performed it at Worthing on the 30th. Dr. Collet, Mr. Harris, and Dr. Ritchie assisted me, and chloroform was administered by Dr. Parson. An incision was commenced an inch below the umbilicus, and carried downwards six inches. There were some adhesions around the umbilicus; they were very vascular, but very easily broken down by the finger. The pedicle was three inches long, and sprang from the right side of the uterus; it was secured by the smallest clamp. The haemorrhage from the divided adhesions was very free. A group of openings in the abdominal wall was closed up on the principle of Mr. Dix's compress; a silk ligature tied externally over a plegget of lint being, however, substituted for the wire. Two bleeding points were taken up and tied, the ligatures being then cut off short. The opposite (left) ovary was concealed by three fibroid outgrowths from the uterus, about the size of a small Tangerine orange. The abdomen was sponged free of clot, and the wound closed by four deep and four superficial sutures. The removed tumour was a large cyst, about twelve inches in diameter. The cyst would have been perfectly simple had it not been that in its walls occurred twelve or thirteen little projections, for the most part about two inches long, one broad, and half an inch thick. One or two of them were of somewhat larger dimensions, and evidently contained fluid. On cutting into one of these latter from the outside, it was found to consist of a cyst, into which projected a honey-combed mass. The cells of the honey-comb varied in size from a pin's point to a blackberry, the latter, however, being very rare, and they were all filled with tenacious jelly. The smaller projections consisted of the same honey-combed mass, minus the fluid surrounding it,

but contained in a capsule which could easily be enucleated from the wall of the parent cyst. The patient rallied well after the operation. There was some severe pain, which had to be relieved by opium, and at night a large quantity of clear urine was drawn off. For the next few days there was a good deal of sickness and some tympanites. A tube was left in the rectum with good effect, and on the 3rd of April Dr. Collet reported that the tympanites had disappeared, and that he had cut three of the stitches, the wound being well united. Next day the clamp was removed, and although the little operation was followed by a nervous attack, the patient was able to eat a sole for dinner. The compressing ligature was also removed, but, unfortunately, the track suppurred. For the next two months the health varied very considerably; the little suppurating sinus gave her considerable pain, and she was seized at intervals with attacks of sickness, and occasionally vomited a little blood. Towards the end of June she came to London, when I opened a small abscess in the abdominal wall, formed by the occlusion of one end of the sinus. There was a good deal of hectic fever, and some pleuropneumonia of the right side supervened; but, under the free use of tonics, the health subsequently improved. She returned to the country after the fortnight in London, and I have heard from her since as enjoying good health.

I profited in this case by the lesson taught by Case LXXII., and did not interfere with the small fibroid outgrowths from the uterus. They were probably of little importance, while their removal might have added considerably to the danger of the ovariotomy. Acupressure or the compress proved of great service; indeed, I hardly knew any other means by which the bleeding could have been stopped. It was very free from a number of small openings into a bunch of varicose veins just above the umbilicus, and the oozing went on as if from a sponge. But by passing silk from within outwards twice through the abdominal wall, and tying it outside on a pledget of lint, all bleeding was effectually stopped. Probably the troublesome sinus and abscess might not have followed if the silk had been removed earlier; but it was thought safer to be on guard against any secondary haemorrhage. The credit of the after-treatment of this case is entirely due to Dr. Collet.

CASE LXXXIX.

Non-adherent Cyst; Never Tapped; Ovariotomy; Tubercular Peritonitis; Death on the Fifth Day.

I SAW an unmarried lady, twenty-two years of age, on February 28, 1864, at Brighton, in consultation with Dr. Pickford. The complexion was pale and waxy, and she was considerably emaciated. The girth at the umbilical level was thirty-nine inches, the distance from the upper border of the tumour to the umbilicus was seven inches, and from each ilium to the same point ten inches. The abdominal parietes were quite normal. The whole abdomen was filled with a fluctuating tumour; the fluctuation being so general that the impression of there being only a single cavity was given. There was no crepitus nor pain on pressure. The right lumbar region was quite dull, but the left was clear on percussion. The catamenia were regular, but rather scanty. The uterus was high up and pushed somewhat to the left; it was freely movable. The right wall of the vagina was slightly depressed. Dr. Pickford gave me a history leading to the suspicion of haemorrhagic diathesis. A younger brother had had pupura; an aunt had bled much after the removal of a tooth, and the patient herself had once, when a baby, been quite blanched by bleeding from leech bites. It appeared that she had always had a very large abdomen, and that for the last seven years she had suffered from pain in the right groin at each monthly period. For two and a half years she had complained of constant numbness and weakness of the left leg, and for the last three weeks the same sensation had been experienced in the right leg. About a year before I saw her she had been seized with a violent feverish attack, which gave way under the use of quinine. My diagnosis was: 'Ovarian cyst, nearly unilocular, but with some small cysts low down. The tumour probably belongs to the right ovary, but the fact of both legs having been affected leads to the suspicion of both ovaries being involved, although menstruation is regular.'

I explained to the relatives that while the mortality after first tappings was one in six or seven, after ovariotomy it

was not more than one in four or five *in favourable cases*. We gave a ferruginous tonic, and I advised the patient to come to London for ovariotomy, after the cessation of her monthly period in March. On March 21 I received a note from Dr. West, who had seen the patient in November 1863, and again just before writing to me. He agreed with Dr. Pickford and me as to the advisability of immediate ovariotomy, as the abdomen was enlarging.

The operation was performed on the 2nd of April, in the presence of Dr. Koepl of Brussels, Dr. Pickford of Brighton, Dr. Ritchie, and Dr. Savage, chloroform being administered by Dr. Parson. There were no adhesions. The pedicle sprang from the right side of the uterus. It was very short and broad, and the Fallopian tube was closely connected to the cyst for several inches. I separated it, in order to lessen the breadth of the pedicle and diminish the pull on the uterus. The pedicle was then secured by a clamp. During the operation there was a good deal of haemorrhage from the abdominal incision, but it was controlled by bull-dog forceps. The left ovary was found to be healthy, and the wound was closed by four deep and four superficial sutures. The quantity of ovarian fluid drawn off during the operation was twenty-eight pints, the weight of the cyst about one pound; its peritoneal coat bore unmistakeable evidence of tubercle in all its different stages. The tumour was sent to Dr. Fox, who gave the following report:—

The tumour was about twice the size of a foetal head (full period), emptied when sent to me. It was single with the exception of a few sessile thin-walled cysts not exceeding six in number, and none larger than a hazel-nut. The inner surface of the cyst was lined with a spheroidal epithelium. On the outer surface were numerous nodules varying in size from that of a pepper-corn to that of a rape-seed, and imbedded below the peritoneum. They were so firmly blended with the surrounding sterma of the cyst wall as to be removed with the greatest possible difficulty. These masses had a cartilaginous hardness, and when cut into presented a glistening semi-transparent appearance at the circumference, while the centre was cheesy and slightly softened. The apparent area and size of many of them was considerably increased by a layer of pale yellow exudation matter which covered their peritoneal surface: it was quite amorphous, and could readily be peeled off. The nodules themselves were without any trace of vessels,

but the tissue around was very highly injected in a variable area encircling each nodule. In this area there were often delicate membranes studded with the finest granulations of miliary tubercle. These same fine grey granulations of miliary tubercle were also found studded over other portions of the tumour.

The patient rallied well after the operation; there was a good deal of pain, but that was relieved by opium, and at 11 p.m. the pulse was 120, full and soft, plenty of urine had been passed, and there had been no vomiting. She was sick only once during the night, and next morning was in a very satisfactory condition. Towards midday I cut away a little slough which was above the clamp, and shortly afterwards the pulse fell to 108. When I made my evening visit I found that the patient had been sick twice, and that the straining had disturbed the clamp. Some of the stump had slipped through, and this had given rise to a slight oozing of blood. I put on a ligature under the clamp, and tightened the clamp again. At 11 p.m. the pulse was 112. On the morning of the 4th I found that the patient had passed a bad night. She had not vomited, but had been restless and uncomfortable. There was a good deal of epigastric tympanites, and it appeared that no flatus had passed by the rectum. There was a very slight serous discharge in the neighbourhood of the clamp. The pulse was 135 to 140, small and hard. Perspiration was free. During the course of the day the patient was disturbed by sudden starts of pain, evidently from flatus. When examining the abdomen I found the recti spasmodically contracted; it appeared almost tetanic, but there could be no doubt that it was hysterical. At 8 p.m. the pulse was 130, and she was feeling better, but on moving her there was another spasm. Flatus had passed per anum, and she said that the spasms were less frequent than in the morning. Opium had been given at intervals during the day, and it was now thought advisable to order a little champagne. At 11 a little dark matter had passed from the rectum along with the flatus, and the patient felt better after the champagne. On turning the pillows no new spasm was induced. A grain of opium or m. xx. Tinct. Opii were ordered to be given by the rectum every two or three hours, and the pain and spasms required a tablespoonful of champagne to be administered at intervals. On

the morning of the 5th the pulse was still 130 to 135, and the tympanites was increased. On moving her there was a little rigidity in the muscles of the back. The patient remained all day much in the same condition. She vomited ‘coffee grounds’ in the afternoon, but in the evening the twitching and rigidity had very decidedly abated. I reduced the opium. Next day there was still less twitching and no sickness, the urine too continued abundant, but the pulse varied from 140 to 160. At 6 A.M. on the morning of the 7th I was called to see the patient, as she was pale and breathless, and her pulse had begun to intermit. I found the abdomen very tense. I removed the clamp, and the pedicle sunk inwards, remaining, however, in sight. Dr. Althaus came at my request, and applied Faradisation in the hope of lessening the tympanites; but no great effect was produced. At 9.30 she was still sensible, but the pulse was almost imperceptible, and the lips and hands were blue. At 10.20, just after drinking some tea, she vomited some matter like coffee grounds, passed a motion, and died 114 hours after the operation. No post-mortem examination of the body was permitted. Dr. Fox’s report of the state of the peritoneal coat of the cyst puts the tubercular character of the peritonitis almost beyond question. Dr. Pickford and Dr. Parson assisted me most ably and assiduously in the after treatment.

CASE XC.

Large Multiple Cyst; Once Tapped; Ovariotomy; Pelvic Abscess; Recovery.

A MARRIED woman, with some red Indian blood, thirty-two years of age, was sent to me for ovariotomy by Mr. Stretton of Beverley, and was admitted into the Samaritan Hospital March 22, 1864. A large ovarian cyst of between four and five years’ growth had been tapped in Guy’s Hospital four months before. Twenty-seven pints of clear fluid were then removed, and a ‘hard substance’ left. It was two months before there was much increase, but latterly the increase had been rapid. The patient was healthy in appearance, but there were signs of cardiac disease

which led to serious doubts as to the propriety of performing ovariotomy—viz., a small pulse occasionally intermitting, a loud second sound, and a soft mitral murmur. But as the lungs were healthy, the urine normal, and there was no oedema of the legs, ovariotomy was performed on April 4. Dr. Koepl of Brussels, Dr. Pickford of Brighton, Dr. King of Hull, Mr. Judd, Mr. Lord, &c., were present. An incision of only three inches long, midway between umbilicus and symphysis pubis, through a thick layer of fat, exposed a non-adherent cyst, which was tapped, emptied, and withdrawn. But it was found that there was no distinct pedicle, the cyst being fixed between the layers of the right broad ligament in the iliac fossa, and close up to the bladder. Accordingly no attempt to isolate it was made, but the neck of the cyst was inclosed in a large clamp, and fixed outside. The left ovary having been found to be healthy, the wound was closed in the usual manner. Twelve pints of fluid had been removed from the cyst, which, with a group of secondary growths, weighed about two pounds.

The patient went on very well for three days. On the fourth day the clamp was removed. Some bloody discharge came on from the uterus in the morning, and in the afternoon there was a similar discharge in considerable quantity from the opening left for the pedicle. This continued both from the wound and the vagina during the three following days, when the uterine discharge ceased, and that from the pedicle became more purulent. Examination by the vagina and pressure proved that the collection had its seat on the loose cellular tissue about the right broad ligament. On the ninth day the slough had nearly all separated from the pedicle, but a very free, dark, foetid, serous discharge continued for some days later. This gradually lessened in quantity, became less foetid, more purulent, and at last ceased altogether. She was discharged May 17 in very good health, and, as she was badly off, she was sent to the Seaside Convalescent Hospital, at Seaford. But a quarrel at the railway station led to her confinement in Lewes gaol for a month; and soon after her return to London she was imprisoned on a charge of robbery. Yet the life she led, and the imprisonment so soon after a severe operation, did not prevent complete recovery.

CASE XCI.

Cysto-Sarcoma ; Once Tapped ; Ovariotomy ; Fifty-nine Pounds Removed ; Recovery.

ON November 16, 1863, I saw a married lady, forty-five years of age, in consultation with Dr. Arthur Farre. The whole abdomen was filled by a tumour, the upper margin of which extended two inches above the ensiform cartilage. Above the umbilical level fluctuation was quite distinct ; but the tumour appeared to be solid below. The uterus was small, central, high, but movable. The catamenia had not appeared since August ; before that time they had been habitually profuse. The urine was normal in quantity, and contained no albumen ; the skin was dry ; the pulse feeble, about 80. There was considerable emaciation ; but the complexion was florid, aspect cheerful, and spirits good. She had never been pregnant, although she had been married eleven years. The disease was supposed to have commenced some three or four years after marriage, but no very accurate history could be elicited. Increase had been slow at first ; much more rapid of late. Measurements had been marked on a piece of ribbon, by which I learned that the girth at the umbilical level in October 1859 had been thirty-seven inches ; in January 1860 thirty-nine inches ; and in January 1862 forty-two inches ; so that in two years the increase had only been three inches. In January 1863 it was forty-three and a half inches, an increase of only an inch and a half in another year. This slow increase had led Mr. Hodgson to be content with palliative treatment. Then increase from the rate of an inch a year advanced to the rate of an inch in a month. In June 1863 it was $45\frac{1}{2}$; in July, $46\frac{1}{2}$; in August, $47\frac{1}{2}$; in September, $48\frac{1}{2}$; in October, 49 ; and in November, 50. At my first visit the effects of the distension were so distressing that we agreed to tap without delay, and on November 18, choosing the lowest point above the umbilicus where fluctuation could be detected, I tapped and removed thirty-eight pints of thin dark fluid containing much cholesteroline, from the large upper cyst. A large, firm, solid mass was then felt closely adhering to the abdominal wall, filling all the lower part of the abdomen, and measuring $17\frac{1}{2}$ inches

vertically. She was much relieved by the tapping, and did not suffer until the fluid began to re-form ; then she became feeble, and considerable oedema of the left lower extremity came on, with some hardness and tenderness in the course of the femoral vessels. The bowels were kept open, and citrate of iron and quinine were given steadily. On December 8 the pain and swelling of the thigh had increased till it was a serious evil. The patient was obliged to lie on the left side, and thus increase the oedema ; because lying on the right side brought on very severe pain in the course of the left sciatic nerve. But as the cyst refilled, and the abdomen became more tense, it seemed as if the solid part of the tumour was held up and pressure removed, for the pain and oedema gradually disappeared. The general health also improved under the tonic treatment. Then the effects of distention again became threatening, and the question of ovariotomy was pressed upon our attention. On January 8, 1864, Dr. West joined Dr. Farre and me in consultation. I had expressed my opinion that the hope of success and the fear of failure were about evenly balanced. Dr. West considered that this was too sanguine a view ; but thought that of three such cases one might recover, and that as the risk of another tapping would be very serious, and that, under any circumstances, the patient was not likely to live six months, ovariotomy ought to be done if the patient desired it. Dr. Farre thought the general condition at that time too unfavourable to offer any fair prospect of success ; so that he could not sanction the operation, but he would not oppose it, as it was clear that she was not likely to survive more than one or two more tappings. A day was soon afterwards fixed for the operation, and Dr. Farre was to have been present, but his attendance upon the Princess of Wales in her first confinement rendered this impossible. The operation was delayed, and not only without disadvantage, but, for a time, with some improvement in the general condition. Then increase went on until it was evident that either tapping or ovariotomy must be had recourse to. On February 12 the girth at the umbilical level was forty-eight inches, and the distance from sternum to pubes twenty-six inches. On March 1 the girth had increased to $48\frac{1}{2}$; on the 16th to $49\frac{1}{2}$; the other measurements being also increased to 29 and 34 inches. Dr. Oldham

met Dr. Farre and me on March 26; and, as he agreed with me that the prospects of success almost—if not quite—equalled the fear of failure, and that the risk of tapping would be very great, and confirmed this opinion at another visit on April 1, I performed the operation on April 5. Mr. Clover administered chloroform, and I was assisted by Drs. Oldham, Playfair, Ritchie, and Savage. Dr. Koepl of Brussels was also present. I first tapped the large upper cyst, five inches above the umbilicus, by an ordinary trochar, and when that was empty, I exposed the solid tumour by an incision six inches long, midway between the umbilicus and pubes. Some firm and extensive adhesions to the abdominal wall were then broken down by the hand; and as the size of the tumour could not be reduced by tapping, the incision was prolonged. Then as there were no adhesions posteriorly, the tumour was easily brought out, and a narrow pedicle, between three and four inches long, was readily secured by a small clamp. The adhesions had been vascular, and there was rather free bleeding; but, with the exception of one vein in the wound, which was tied, and a vessel in the wall, which was stopped by acupressure, the bleeding ceased spontaneously. The wound was closed by twelve deep and eight superficial silk sutures. The tumour itself, and the fluid which had escaped from its cysts, weighed together fifty-nine pounds. Dr. Oldham exhibited the tumour at the Obstetrical Society; and Dr. Fox's report on it is given below.

The patient rallied well after the operation, and had but little pain. She expressed herself as feeling less ill than she had done after the tapping, and passed a good night. For the next two days she was very drowsy, although she had taken no opium, and scarcely made any complaint. On the evening of the fourth day I removed all the stitches except that next the clamp. The wound had healed by the first intention throughout. Objecting to the use of the catheter, and believing that she emptied the bladder herself, attention was not directed to the urine until it was found to be ammoniacal, and on the morning of the fifth day between four and five pints were removed by the catheter. Some irritability of the bladder followed, and the catheter was regularly used for a few days. This was the only cause of discomfort during the after treat-

ment. The clamp was left till it separated on the tenth day. The patient soon gained strength, and went from London to the Isle of Wight about the middle of May. Dr. Farre and Mr. Hodgson had seen her, and were both surprised at such a rapid recovery. I heard of her in September as having attended every concert at the Birmingham Musical Festival, and as walking both up and down one of the highest hills in England, and looking and feeling perfectly well.

The following report is by Dr. Fox:—

A section of this tumour is in the Museum of University College. This very large tumour had been emptied of the contents of many of the largest cysts. When these were distended with horse hair to about the natural size it measured in its greatest diameter (the longitudinal one) 36 inches, and 33 inches in the transverse diameter, and weighed in this condition 13lbs. The cysts which had been emptied represented at least half of the tumour in bulk. The structure of the portion not emptied was most complex, the cysts being of every variety of size, and grouped in the greatest confusion. The fluids contained in them were very various in their density, some portions being clear, others very opaque, and resembling pea-soup. They were variously lined with stratified epithelium and villi, and many which were almost completely solid presented a dense mass of glands and villi. Masses of glands and small villi were embedded in the thickened walls. The external surface of this mass was comparatively smooth and but little injected. The lining membrane of most of the secondary cysts was, however, very fully injected. The structure of this cyst, therefore, resembled that of many of those already described.

CASE XCII.

Large Multiple Cyst; Twice Tapped; Ovariotomy; Pedicle Returned; Death from Peritonitis.

A CHILDLESS married woman, fifty years of age, was sent to me in November 1863, by Dr. Guy of Doncaster. She had a large multilocular ovarian tumour of very rapid growth, having been first detected less than three months before. There was œdema of the left leg, commencing emaciation, and a very unhealthy aspect. A course of treatment was advised with the hope of improving the general health, and she returned

home; but increase still going on, she came to town again, and was admitted into the Samaritan Hospital January 30, 1864. The largest cyst was tapped on February 2, and twenty-four pints of thick mucoid fluid were removed. Groups of secondary cysts were then felt on both sides, those in the right iliac region appearing to be firmly fixed there. She improved in health and left the Hospital February 12. On March 29 she was readmitted, suffering much distress from distension. She was tapped on the 31st, and eighteen pints of dark fluid were removed, with some relief, but with no great diminution in the size of the abdomen. Some bronchial congestion followed, but subsided, and (as the only hope of saving life) ovariotomy was performed on April 14. Dr. Koepf of Brussels, Dr. Guy of Doncaster, Dr. Playfair, &c., were present. An incision was made eight inches downwards from the umbilicus, through the very fat and oedematous abdominal wall, and some extensive adhesions anteriorly were easily separated by the hand. A piece of adhering omentum about three inches broad was also separated. During the separation the cyst gave way, but it was easily removed, and a very narrow pedicle was secured temporarily by a clamp. The tumour was cut away, the peritoneal cavity cleaned by free sponging, the left ovary found to be healthy, and after securing the pedicle behind the clamp by a silk ligature (which was cut off short), removing the clamp, and allowing the pedicle and ligature to sink into the abdomen, the wound was closed by silk sutures. Twenty-six pints of fluid were collected, and the semi-solid mass weighed seven pounds and a half.

With the exception of occasional lumbar pains, the patient went on very well for twenty-four hours. The second night she also slept well, but early next morning vomiting came on, with tympanites, scanty concentrated urine, and the pulse rose to 140. All the sutures were removed forty-four hours after operation, as the wound was accurately united throughout. Some relief was afforded in the afternoon by the passage of a large quantity of flatus through a long tube passed into the rectum; but at night vomiting of dark greenish fluid became increasingly urgent, and she died exhausted sixty-four hours after operation.

The body was examined by Dr. Barratt. The right cavities

of the heart contained adherent fibrinous clots. All the blood elsewhere was fluid and blackish in colour. The liver was very fatty; the gall bladder distended. About two pints of dark red serum had been effused into the peritoneal cavity, which contained neither blood nor ovarian fluid. The recent lymph was confined entirely to the lower and back part of the abdomen and pelvis; the peritonitis radiating from the pedicle, not from the wound in the abdominal wall, which was completely united, nor from a surface where the cyst had been adherent. There was no such attempt to capsulate the pedicle and ligature as there probably would have been had the patient been in better health. I expressed my opinion, when exhibiting the specimen at the Pathological Society, that the chances of recovery would have been greater had it been possible to keep the end of the pedicle outside the abdomen; and I stated that the trials which I had made of returning the pedicle seemed to teach that in young or healthy subjects, where circumscribed peritonitis and effusion of plastic lymph might be expected, the practice was a good one; but in debilitated or cachetic patients, in whom diffuse peritonitis and effusion of serum or of aplastic lymph might be feared, it would be safer (when the clamp could not be used) to leave the ends of the ligatures hanging out through the wound, and thus secure an opening for the escape of effused serum, and for the ligature itself with the tissues enclosed in it after their separation. This case, as well as Case LXXXII., seem to bear out this opinion.

Dr. Wilson Fox's report on the tumour is as follows:—

This tumour was nearly globular. It was about twice the size of an adult head. The external surface was comparatively smooth and but little injected. It consisted throughout of a dense mass of cysts, varying in size from that of a moderate sized turnip to a Tangerine orange, and from this to cysts of the smallest microscopic size. These all contained glands and villi grouped in great confusion, but presented a structure almost precisely similar to those previously described. A section of this tumour is in the Museum of University College.

CASE XCIII.

Non-adherent Cyst of Broad Ligament; Ovariotomy; Pedicle Returned; Recovery.

ON August 3, 1863, I was asked by Dr. Watson to see an unmarried lady residing in Hampshire. She was twenty years old, of a sanguine disposition, and her general health was little affected. The girth at the umbilical level was thirty-four and a half inches, the distance from the ensiform cartilage to the pubic symphysis fifteen inches, and from the ilium to the umbilicus on the right side nine inches, on the left eight. The abdomen was occupied with a fluctuating tumour, which extended upwards two or three inches above the umbilicus. There was no crepitus, and no tenderness on pressure. The uterus was far backwards, a little to the left, and freely movable; the right side of the vagina was depressed, giving rise to the impression that the connection was with the right side of the uterus and rather close. The patient had observed an increase of size as far back as 1862, but she continued quite well till three months before I saw her, and the existence of an ovarian tumour had been suspected only about three weeks. The disease seemed to give so little uneasiness, that I advised postponement of any surgical interference. In October 1863, I heard that the patient was going on well, but that the abdominal fulness was increasing, and that respiration was somewhat affected. On March 21, 1864, I again saw her. The girth at the umbilicus was now thirty-seven and a half inches, the vertical measurement still fifteen, but the increase across the front of the abdomen was two and a half inches, or from seventeen to nineteen and a half. I still adhered to my diagnosis written down the previous August: 'Ovarian cyst, left side, nearly unilocular. Some depression of right broad ligament.' And as the increase had been so rapid, I agreed with Dr. Watson that ovariotomy should be performed soon after the next menstrual period. She came to town on April 11, the flow having ceased the day before, and I operated on the 16th, with the assistance of Dr. Koepl of Brussels, Dr. Oldham, Dr. Ritchie, and Mr. Curtis of Alton. Chloroform was administered by Dr. Parson. The incision

was commenced one inch below the umbilicus, and carried downwards three inches. There were no adhesions. The cyst was tapped, easily pulled out, and was found to be rather an offshoot from the right ovary than an ovarian tumour; so much so that I consulted with Dr. Oldham as to the propriety of removing the cyst and leaving the ovary, which it would have been easy to do. But the ovary felt hard, and appeared larger and more corrugated than is usual in unmarried women, and we thought it safer to remove it.

The pedicle was not thicker than a finger. It was doubly tied about two inches from the uterus, and the silk ligatures were cut short and returned. A cyst the size of a walnut in the left broad ligament near the ovary was laid open and emptied, and the wound was closed with four deep and three superficial silk sutures. The patient made a most rapid recovery, although there was more pain for the first three days than is usual when the clamp is used. The sutures were removed on the third day after the operation, and in less than three weeks the patient was able to drive about. I heard from her lately, when she said that she was stronger than she had ever been.

The following is Dr. Fox's report on this cyst :—

Cyst of Broad Ligament.—A large cyst, empty when sent to me; when distended, it is about twice the size of an adult head. The Fallopian tube flattened out is seen to course along its external surface. The fimbriæ are, however, non-adherent and distinct. The ovary is found in a fold of the broad ligament, distinct from the tumour and presenting the natural appearance. It contains no cysts. The cyst itself has a smooth external wall. It is lined internally by a flattened polygonal epithelium. No villous or papillary growths can be discovered on its inner surface. This was of a delicate rose colour. The cyst was injected with carmine, but the arrangement of its vessels presented nothing remarkable. The vascularity of the cyst was not very great. No other cysts could be found in the broad ligament.

CASE XCIV.

*Multiple Cyst; Tapped Three Times; Ovariotomy;
Recovery.*

ON March 3, 1864, in consultation with Mr. Carden of Worcester, I saw a lady, forty years of age, who had married in 1849, but had been a widow for six years. She had five children, the youngest of whom was eight years old. She was florid, and rather stout. There was no phthisical taint about her family, but she had lost one child from haemorrhage consequent on simple scarification of the gums, and she herself had always flooded at her confinements. The catamenial discharge was habitually profuse. It first began when she was thirteen years of age, and it usually lasted four days, then ceased two days, and reappeared for forty-eight hours longer. The first symptoms of ill health had shown themselves during the previous summer, and in September Mr. Carden discovered a tumour as large as the uterus at the eighth month of pregnancy. The swelling increased, and the symptoms which it occasioned became more severe, so that in November 1863 Mr. Carden tapped, and removed nine quarts of reddish cruelly fluid. The operation was repeated on January 2, 1864, when six pints of similar fluid were drawn off. The symptoms complained of were chiefly pain and numbness in the legs, with occasional bladder disturbance. The girth at the umbilical level was 39 inches ; the distance from sternum to pubes $17\frac{1}{2}$; and from the ilium to the umbilicus, on the right side 11 inches, on the left $11\frac{1}{2}$. A fluctuating tumour was distinctly to be felt filling the under part of the abdomen, extending up to the false ribs on both sides, and reaching farther over to the right than to the left side, so that in the left flank the clear percussion note of the intestines was to be heard. The tumour was freely movable ; there was no crepitus, but there was a little tenderness in the left hypochondrium, and the superficial veins were considerably enlarged. The uterus was high, and its mobility was tolerably perfect ; its cavity was $4\frac{1}{2}$ inches long ; the os was open ; the cervix soft and partially obliterated. The vagina was normal, there being no portion of the tumour to be felt in the pelvis.

Immediate relief being necessary, we tapped and removed thirteen pints of reddish-coloured fluid. My diagnosis was: 'Multilocular ovarian cyst of the right side, probably accompanied with some fibroid tumour or chronic congestion of the uterus. No parietal adhesions, nor close connection between the tumour and the uterus.' The fluid removed was examined by a friend, who said that 'he hesitated to call it ovarian, as there were no characteristic ovarian cells in it; there were blood cells in great profusion, and a very few large soft exudation cells, with some singular-looking elongated cells, with very faint outline, but full of granular matter.' We recommended ovariotomy before there could be necessity for another tapping, and I performed the operation on April 26, with the assistance of Messrs. Carden and Shepherd of Worcester, Benfield of Leicester, and of Drs. Ritchie and Savage. The incision was commenced an inch below the umbilicus, and carried downwards six inches. The adhesions immediately round the points of previous puncture were intimate, so that the cyst was opened while exposing it, and its contents were allowed to escape. There were no other adhesions, and the tumour was easily extracted. The pedicle was very broad, but long enough to drag but little on the uterus, although none of the cyst was included in the clamp. The opposite (right) ovary was twice the normal size, but as that appeared to be due to the remains of menstrual congestion, it was not interfered with. It is worthy of remark that the cyst sprang from the left ovary, although the left loin was clearer than the right.

The following is Dr. Ritchie's report of the tumour:—

Pedicle an inch in length, when compressed is about half an inch in diameter; it consists of the two layers of peritoneum constituting the broad ligament, and within the folds of this ligament we found (*a*) the Fallopian tube, nearly six inches long; the pavilion is patent and does not adhere to the tumour, being separated from it by two inches of broad ligament; (*b*) the Fallopian vein parallel to the tube, and communicating with (*c*) the ovarian vein, much enlarged; (*d*) the artery also enlarged. The cyst itself, when filled, is about the size of an adult head; it is capable of containing eighteen pints of fluid. The outer surface is for the most part smooth and shining, of a pearly lustre, and well supplied with blood-vessels. Scattered over it here and there are marks of adhesions. The walls of the cyst consist of (1)

the peritoneum, (2) a fibrous envelope capable of being split up into many layers well provided with vessels, and covered with (3) a layer of tesselated epithelium; this layer is only apparent at intervals. The internal surface is generally of a white colour: it is corrugated and covered with innumerable little masses differing from each other in size, consistence, and colour. The greater number of these masses are about the size of a barleycorn, of a yellowish colour, and granular to the touch. Corresponding to the traces of adhesions the masses are larger and more deeply injected, and at two points in the tumour they reach the size of a small placenta. On examining one of these small placentæ, we find that it is enclosed in a capsule which seems to be formed by the splitting up of the fibrous wall of the tumour. On opening the capsule the cake-like mass is found to be traversed by canals running between little uneven heaps of fibrous hardness. The canals are filled with a cruelly fluid which exudes freely, and the fibrous masses cannot be enucleated without tearing them. On inspecting the placenta-looking structures with a magnifier, they appear convoluted, the general enlargement being very similar to that seen on the top of the brain.

After the operation the patient rallied well, the pulse gradually rising to 112. She passed a good night. On the 30th the pulse was 130, the wound nearly healed, and the patient able to be moved into a fresh bed. The stitches were removed the day before. On May 5 I took away the clamp. A fortnight later this patient was out driving, and on May 25 she returned to Worcester restored to strength. I saw her in October in perfect health.

CASE XCV.

Multilocular Ovarian Cyst; Once Tapped; Ovariotomy; Pedicle Returned; Recovery.

A MARRIED woman, forty-six years of age, came from Banbury to consult me in September 1863. She was in feeble health, and had an ovarian tumour of from two to three years' growth filling the greater part of the abdomen. It was free from adhesions anteriorly, but the uterus was slightly pulled upwards. She was admitted to the Samaritan Hospital, and six and a half pints of opalescent albuminous fluid were removed by tapping

from the largest cyst on October 26. The uterus felt more free after the tapping, she became much more comfortable, returned to the country, improved in health, and was readmitted for operation on April 23. The connections between the tumour and the uterus appeared to be close anteriorly; but as there was no other unfavourable condition, ovariotomy was performed on May 2. Dr. Campbell of Boston (United States), Mr. Griffin of Banbury, Dr. Wallace of Aberdeen, &c., were present. Dr. Parson administered chloroform. An incision, five inches long from one inch below the umbilicus, exposed a non-adherent cyst, which was tapped, emptied, and withdrawn. The cyst was closely attached for the breadth of about three fingers to the right side of the uterus. The connecting medium was transfixated by a needle carrying a strong silk ligature, with which the broad ligament was tied in two halves, and the tumour was then cut away close to the ligatures, the ends being cut off short and allowed to sink inwards with the uterus and left ovary, which was healthy. The only bleeding was slight venous oozing from the sides of the incision. The wound was closed in the usual manner.

She required rather more than the usual amount of opium on account of pain, vomited occasionally, and was much troubled with flatulence during the first and second day; but after this she recovered well. All the sutures were removed on the 5th (three days after the operation), the wound being accurately united throughout by first intention. The bowels acted on the 9th, and she was discharged in good health on the 21st—less than three weeks after operation. She called at the Hospital in the autumn of 1864 in perfect health.

CASE XCVI.

Pseudo-Colloid Tumour; Spontaneous Rupture; Tapping; Peritonitis; Ovariotomy; Death in Forty-four Hours.

ON April 22, 1864, Dr. Gull asked me to see an unmarried lady, forty-six years of age, whom he had seen some weeks before with Dr. Oldham, suffering from a large multilocular ovarian tumour, and who had just returned to town. The

growth had been extremely rapid, as no abdominal enlargement had been noticed until Christmas 1863, although for two or three months previously her health had been declining. I have no measurements of the abdomen; but it was very large. A multilocular ovarian cyst was felt and seen very distinctly to be surrounded by a thin layer of ascitic fluid. The uterus was small, rather low, and movable. No part of the tumour could be felt in the pelvis. Mr. Phillips of Leinster Square took charge of the patient, and Dr. Oldham joined us in consultation on April 28, to determine whether ovariotomy should be performed without delay, or should be preceded by a tapping. Directly I saw the patient I noticed a great change in the appearance of the abdomen. The integuments were very œdematosus, fluctuation was much less distinct, and no cyst could be seen, nor could any of the irregularities on the surface of a multilocular cyst be felt. The patient and her sister had both noticed the change, and dated it from an attack of sickness two days before. Tapping was agreed upon, and on April 29, assisted by Mr. Phillips, I tapped two inches below the umbilicus. Nothing would pass through the canula, but we pressed a pint of very viscid matter from the puncture. A suspicion of colloid cancer of the peritoneum having been raised, I sent some of the matter to Dr. Wilson Fox, who reported :—

The probability is immense in favour of its coming from the interior of an ovarian cyst, but we have no absolutely positive data of comparison between ovarian and ascitic fluid. The epithelium which this contains is exactly like that of many ovarian fluids, but it is more coagulable by boiling than is often the case. I never saw colloid matter from ascitic fluid presenting quite the characters of that examined.

The tapping was followed by feeble rapid pulse, vomiting, restlessness, and tenderness, all indicative of a low form of peritonitis; and ovariotomy was performed on May 3, though with little more than a slender hope of saving life. Dr. Parson gave chloroform, and I was assisted by Dr. Ritchie, and by Mr. Phillips and his son. Directly the peritoneum was opened, it was found to be filled with a tenacious mass like calf's foot jelly, which had escaped from a long rupture in the posterior part of a large ovarian tumour. There were no

adhesions, but there was very great difficulty in clearing the abdomen and pelvis and their viscera from the matter which adhered to them in all directions. But this was effected, and the remains of the tumour extracted. Nineteen pounds of the matter were collected, and the tumour weighed six pounds. The pedicle was three inches broad and very short, and sprang from the right side of the uterus. It was temporarily secured with a clamp, and finally firmly tied with silk, the ends of the ligatures being allowed to hang out of the inferior angle of the wound. The opposite ovary felt rather large, but was not interfered with, and the wound was closed by nine deep and four or five superficial silk sutures. After the operation the patient complained of great pain in the right thigh. It was relieved by opium, and six ounces of urine were drawn off. Mr. Phillips and Dr. Ritchie assiduously carried on the after treatment. She passed a fair night. Next morning her pulse was 112, and her skin moist, acting freely. She seemed pretty well all day, flatus passing downwards readily; but towards evening her pulse rose to 130. A restless night was passed. On the morning of the second day after operation the pulse was 150, and there was a little vomiting. Stimulants were freely given, but the extremities became cold, the lips discoloured, the voice failed, and at 10 P.M. she died, forty-four hours after the operation. No post-mortem examination was permitted.

The following report of the tumour is by Dr. Ritchie:—

In size it resembled the adult head, its outer surface was lobulated, appearing to be made up of a number of spheres of varying diameter, separated from each other by white shining lines due to fibrous tissue. The outer surface was for the most part smooth and shining, but at intervals it presented the lustreless yellow appearance indicative of fatty tissue, and in other places it was roughened by deposit. The original aperture through which the jelly had escaped into the abdomen was in the posterior wall of the tumour, its form was nearly circular, and its margins were smoothly bevelled off. On making a section of the tumour it was found to be hollow, the contained cavity was large and of irregular shape, evidently being formed by the junction of four compartments communicating with each other by apertures of various sizes. Superiorly and posteriorly where the rupture had taken place, the walls of the cavity were about two lines thick, anteriorly and inferiorly they were

in some places two inches in thickness. The thinnest portion of the wall was found to consist of (1) a peritoneal layer, in some places thickened; (2) a fibrous layer about a line in diameter; (3) a thin vascular lining membrane covered with epithelium. This third membrane appeared to be reflected over the perforated partitions separating one portion of the cavity from another. In the thick part of the wall were developed between the two internal layers and intimately connected with them both, a mass of cysts varying from the size of a pea to that of a pea, the larger ones being compressed laterally, the smaller ones retaining their spherical form. The extremities of the ellipses formed by the larger among these bladder-like vesicles projected into the principal cavity, whose walls formed crescentic margins around them. In some instances the cysts had given way, and nothing but these crescentic borders were left. The jelly-like matter which was found in the abdominal cavity was also present in the cysts. In most of these cysts the contents were homogeneous except at one point where a whitish streak about 1 inch long and $\frac{1}{4}$ inch broad was to be seen. Under the microscope this appearance was found to be due to minute granules in close apposition.

CASE XCVII.

Adherent Multilocular Cyst; Never Tapped; Ovariotomy; Pedicle Returned; Septicæmia; Death Sixty-seven Hours after Operation.

ON March 22, 1864, in consultation with Mr. Ridsdale of Euston Square, I saw an unmarried lady, forty years of age, who had been 'regular' and in good health until the previous October, when she was attacked by a violent hypogastric pain severe enough to confine her to bed. At the same time she observed a fulness about the abdomen. During the course of the following month she had a mild attack of small-pox, and on the subsidence of the eruption she was certain that her abdomen had still further increased in size. The breasts too began to swell, and there was a good deal of morning sickness. These symptoms continued till February, the girth of the abdomen steadily increasing, but menstruation remaining regular. In the beginning of February she was seized with symptoms of local peritonitis, during which she was attended by Dr. Riding

and Mr. Risdale. Leeches and poulticing relieved the pain, and she was again able to move about. Soon, however, the legs began to swell, and she was once more incapable of taking exercise. When I saw her first the skin was hot and dry, but that she said was habitual; the digestive organs appeared to be in good order; there was nothing wrong with the lungs. She always lay on the right side, but that was due to the pain and œdema of the left leg. The pulse was 100, rather small, and the heart's tones were normal. The girth at the umbilical level was thirty-seven inches; the distance from sternum to pubes fifteen inches, and from the ilium to the umbilicus, on the left side eight and a half inches, on the right nine. There was no very distinct fluctuation, but crepitus was appreciable just below the right hypochondriac region, and a spherical tumour was to be traced springing from the pelvis, reaching four inches above the umbilicus, and extending seven inches to the right, and four and a half to the left of the mesian line. During the next six weeks I saw the patient from time to time, and under a course of tonics and baths the skin lost its heat and dryness. As tapping was evidently useless, ovariotomy was performed on May 10, 1864, with the assistance of Dr. Gage Brown, Dr. Birt, and Dr. Ritchie, chloroform being administered by Dr. Parson. The incision was carried from two inches above to five inches below the umbilicus. The adhesions in front were rather extensive, but were easily broken down by the finger; an adhesion to a small piece of intestine also yielded easily, and did not bleed. The pedicle was nearly two inches broad and very short; it was temporarily secured by a clamp, then transfixated and tied in two portions, a general ligature being put immediately under. All the ligatures were cut short and returned with the pedicle. The left ovary appeared to be very large and fixed to the side of the uterus; it was not interfered with. There was a good deal of oozing from the parietal incision, which during the operation was stopped by spring forceps, and which ceased on the wound being closed by eight deep and several superficial sutures. A little dark mass like a drop of black sealing-wax was observed on one of the sponges, but little attention was paid to the circumstance. Before the patient had quite recovered from the chloroform, forty drops of laudanum were thrown into the rectum; at 7.30

a pint of high-coloured urine was drawn off, the patient felt sick and vomited some mucus. At 8 the pulse began to flag, and a little brandy and water was administered. At 11 the pulse was 110 and the skin warm. Another pint of urine was drawn off next morning at 1 A.M.; the skin was moist, no pain was complained of, the abdomen was slightly distended and tympanitic, the flatus being apparently unable to pass downwards; the pulse was 102, the temperature in the axilla 97°, in the vagina 101°. For the next three hours she slept, wakening for some minutes at intervals to vomit a little black-coloured fluid and beg for some ice. At 4 the pulse was 104, the temperature in the axilla 97, in the vagina 100. The catheter was passed, and about a pint of high-coloured fluid withdrawn. At 8 A.M. she was much in the same condition, and another pint of urine was drawn off. During the day the vomiting continued, and the matter ejected gradually became darker in colour; urine was passed at intervals. At 6 P.M. the patient was very restless, the pulse 120; twenty drops of laudanum were thrown into the rectum, and ice was given assiduously. The opium relieved the vomiting at first, but it soon returned. At midnight the pulse remained at 120, the dose of opium was repeated, but was vomited almost immediately. At 2 A.M. on the 12th the pulse had risen to 130, and the respiration was 35. At 3 the dyspnoea was aggravated; four ounces of blood were taken from the arm, but no great relief followed. The patient complained much of a feeling of sinking, and champagne was administered. A mustard poultice was applied to the epigastrum in the vain hope of arresting the vomiting. The countenance was now anxious and the face somewhat flushed. The abdomen was tympanitic all over, but not excessively distended. On examining per vaginam, the uterus was found lying somewhat obliquely, the fundus being to the left side of the pelvis, and the whole organ pressing against the rectum; indeed the finger introduced into the rectum found that canal almost completely closed by the mechanical pressure. A tube was introduced about three inches into the gut, and half a pint of fluid injected. It returned immediately. At 5 the pulse was 140; twenty drops of laudanum were injected into the rectum. This procured some quiet and the patient dozed for some hours, still, however, vomiting at intervals. At

10 she was much in the same state, the pulse was 150, and the bladder, which had not been emptied for five hours, contained only one ounce of high-coloured urine. No flatus had passed per anum since the operation. The lowest stitch in the abdominal wound was removed, and the little finger introduced into the peritoneal cavity, when one ounce of bloody serum came away. At 11 the pulse was 148, the temperature in the axilla 97, in the vagina 103. A tube was introduced about twelve inches into the gut, and a quart of fluid injected. It did not return. At 11.45 the bandage was removed, and an attempt was made to pump out the fluid in the peritoneal cavity. Only two drachms were obtained. The patient was evidently sinking; the pulse was 150, weak, and intermittent; the first cardiac sound was extremely feeble, and the vomited matters contained a great deal of blood. At 1.30 the patient was somnolent, although no opium had been administered for many hours. The tube was again introduced into the rectum, and as it passed the sphincter a little flatus escaped. Two pints of water were injected and retained. At 2.15 the temperature and pulse were the same as before. At 3.30 the catheter was introduced, but no urine could be obtained. Stimulants were now freely administered by the mouth and rectum. The patient continued drowsy, and when questioned said she felt no pain. At 7.30 the catheter was again introduced, but only a tea-spoonful of urine was drawn off. During the night the patient gradually became weaker, the temperature did not vary, but the pulse towards the morning became imperceptible at the wrist. She was sensible to the last, and about midday expired quietly, sixty-seven hours after operation.

A post-mortem examination was made by Dr. Ritchie thirty-two hours after death. The following is his report:—

The face was almost black, the rigor mortis well marked, the integuments, where covered, of a greenish hue. The abdomen was very much distended and tympanitic. An incision was made through the whole thickness of the abdominal wall, commencing at the cartilages of the false ribs on the left side, continued down to the pubes, then transversely to the right iliac region and up to the right false ribs. The flap thus formed was turned up and examined. The sutures were removed from the operation wound, and it was then found that no attempt at agglutination of the edges had been made except by the peritoneum,

whose cut edges adhered feebly together. The parietal peritoneum was of a greenish hue from commencing decomposition, but there was no evidence of general peritonitis. The stomach and intestines were very much distended with flatus, so much so that the former extended considerably below the umbilicus, of course pushing the transverse colon still lower. On turning the bowels away from the pelvic inlet, it was found that they had contracted no adhesions, but that the peritoneum in the immediate neighbourhood was covered with greenish deposit, and that about a pint and a half of bloody serum without clot lay in the cavity of the pelvis. A ligature was placed round the descending colon which was then cut through, and all the abdominal viscera having been turned up a good view of the pelvis was obtained. The womb lay low in the pelvis, and its position was somewhat oblique, the fundus being turned a little to the left and the right side of the womb being slightly the superior. The remains of the pedicle were behind, to the right, and somewhat above the womb. On passing the finger along the left broad ligament, no left ovary was to be felt, but instead of it a number of little granular masses, one of which on being examined had precisely the appearance of a small mass of plumbago. The uterus and its appendages were removed for subsequent investigation and the remaining viscera examined. The kidneys were flabby and much enlarged, having an appearance as if they had been steeped in some fluid. The cortical portion was pale, the Malpighian tufts injected, the pelvis not dilated. The spleen was small and apparently normal. The stomach, which, as has already been said, was enormously large, contained about half a pint of greenish fluid. The mucous membrane was pale, but puckered up here and there into folds, just in the same way as is the mucous membrane of the uterus during menstruation. The liver was very large but apparently healthy; the gall bladder was full. The whole of the intestines from the stomach downwards were cut open, but no trace of stricture was found. The incision was then carried through the cartilages of the ribs on each side, and the sternum turned up. There was no fluid in the pericardium, the heart was pale and flabby, with a good deal of fat about it. Both auricles were empty, but from each ventricle extended into the corresponding efferent vessel a long decolorised clot, adherent to the ventricle, but not to the vessel, from which it could be withdrawn with ease. The lungs were crepitant to the touch and intensely congested..

Returning to the uterus and left ovary. The womb was normal and virginal. The left ovary was converted into a cyst capable of containing a Normandy pippin. The wall of the cyst had an average thickness of one-eighth of an inch, it was as tough as fibro-cartilage, and on being handled crackled like parchment. The intensely black lining membrane of the cyst was thrown into folds, which projected into the

cavity. Posteriorly the wall had given way, and a smooth round aperture existed about an inch and a half in diameter. The cavity of the cyst was empty as regards fluid, but to the lining membrane clung several small black masses similar to the one which had been observed during the operation. Some of the same kind had also been found in Douglas' space. They varied in size from a bean to a pin's point, the smaller ones being the more numerous, and from twenty to thirty may have been found altogether. They were hard, lustreless, and perfectly black, not unlike drops of black sealing-wax. They were examined by Dr. Lionel Beale, and pronounced by him to be altered and inspissated blood. The tumour removed at the operation may be here described. The fluid evacuated by the trochar measured seven quarts, it was black but watery, and under the microscope was found to contain much altered blood. The tumour consisted of one large cyst, a few smaller ones contained in its walls, and a quantity of solid matter. The outer surface of the tumour was for the most part smooth, but here and there was a little inflammatory deposit. Faint white lines were visible traversing the tumour in different directions, and those on the inside were found to correspond with fibrous projections apparently the remains of formerly existing septa. The wall of the cyst consisted of (*a*) a peritoneal layer, (*b*) a fibrous coat, and (*c*) an internal epithelialized lining, having many of the characters of mucous membrane. The third layer seemed to break up and enclose within it small cysts containing clear serum. Those mural cysts varied from the size of a barley-corn to that of a small orange; in a few instances two or more were in close contact, and in some of these a communication had taken place from one to the other, sometimes by a small, sometimes by a large aperture. The solid matter consisted of honey-combed masses whose cells contained a thick white semi-solid substance of the consistence of tallow.

The blood was doubtless poisoned by the absorption of the decomposing end of the pedicle which was returned, and death followed all the usual stages of septicæmia. Had it been possible to keep the pedicle outside, the probability of success would have been much greater. The clamp also would have held up the uterus, and prevented it from falling over to the left, as it did, with the effort of compressing the rectum.

CASE XCVIII.

Non-adherent Cyst; Never Tapped; Ovariotomy; Recovery.

IN the beginning of March 1864, Dr. Brown, of Haverford-west, was called in to see a lady, thirty-three years of age. She had been married for ten years, and had only once been pregnant. The pregnancy followed quickly on the marriage, and was broken off prematurely at the sixth month. Five years later she was operated upon for haemorrhoids; and, about the same time, she was under Dr. A. Farre's care with uterine congestion. She had called in Dr. Brown on account of gastric disturbance, and she also complained of pain in both groins and lower extremities. The catamenia were regular, as they had always been, although their appearance was habitually ushered in by violent pain. On examining the abdomen, he detected a fulness in the hypogastrium, which was dull on percussion, and he suspected ovarian disease. Six weeks later, he found that the whole abdomen was filled by a fluctuating tumour, and requested his patient to come up to me. I saw her on April 22, 1864. She was slight, lively, of florid complexion, and tolerably healthy aspect. The thoracic viscera were in a normal condition, but the abdomen was very considerably enlarged; the girth at the umbilical level was thirty-four inches, the distance from the ensiform cartilage to the pubic symphysis fifteen-and-a-half inches, and from each ilium to the umbilicus nine-and-a-half inches. Evidently an abdominal tumour was present, extending upwards as far as the ninth costal cartilage on each side, and filling up the lower part of the belly, with the exception of the right lumbar region. There was pretty free fluctuation, no crepitus, and but little tenderness on pressure. The wall of the vagina was slightly depressed by the tumour on the right side; the uterus was in its normal position, and was tolerably movable; the cervix was soft, and the os uteri open. My diagnosis was: 'Multilocular ovarian cyst, free from adhesion; pedicle probably short:' and I advised ovariotomy. In consequence of this advice, the patient took lodgings at St. John's Wood, and the operation was performed on May 14. Dr. Brown of Haverfordwest, Dr. Gage Brown of Sloane Street,

Dr. Ritchie, and Mr. Archer, assisted me, chloroform being administered by Dr. Parson. The incision was commenced two inches below the umbilicus and carried down four inches. The peritoneum having been opened, the trochar was passed into what afterwards proved to be a solid portion of the tumour. On pushing the instrument onwards for some inches, a large cyst was opened, through which several smaller ones were successively tapped, and, as there were no adhesions, the whole mass was easily turned out. The pedicle sprang from the right side of the womb; it was about an inch broad and three to four inches long. It was secured by a small clamp, and was easily kept outside without any tension. The left ovary appeared to be healthy. There was very little haemorrhage during the operation. The wound was closed by four deep and five or six superficial sutures, and further secured by strapping and bandages.

The only point in the operation worthy of note was the ease with which the large tumour, after repeated tapping, passed through the comparatively small incision. The doubt before operation as to the length of the pedicle was caused by a solid part of the tumour having become twisted forward, and jammed into the pelvis between the uterus and the bladder, causing a depression of the anterior wall of the vagina on the right side. The quantity of fluid removed was thirteen pints, the weight of the rest of the tumour three pounds. It was so beautifully vascularized that I sent it to the College of Surgeons. Dr. Pettigrew injected it, and it is now in the Museum, a fine specimen of multilocular ovarian cyst. The patient rallied well after the operation; but there was a good deal of pain, which was relieved by opium. Dr. Brown remained with her, and relieved me of much of the after treatment. At night the pulse was 112, the pain had ceased, and a large quantity of clear urine was drawn off. During the night she vomited once, but next day she was very well. The skin was acting freely, the pulse remained at 112, and the urine was abundant. There was some pain in the right hip. Next day the pain in the hip still continued shooting down to the knee. In the afternoon there was some abdominal tenderness, which was relieved by an opiate enema. I removed all the deep stitches. On the morning of the 17th the tongue was white, and the abdomen a little distended, causing the clamp to appear

as if dragged inwards. The stump was quite dry. During the course of the day uterine epistaxis came on, and in the evening the patient was sensibly better. For the next three days the pulse ranged from 80 to 90, the tongue was clean, and the patient comfortable. On the 21st the uterine discharge ceased. On the 26th the bowels were moved after two injections. On June 1, I found the clamp loose in the dressings. For the next few days a little reddish pus oozed from the end of the stump; but it soon ceased, and the patient rapidly gained strength. She went to the country a month after the operation, and on passing through town in August, I saw her in excellent health, although she had had a sharp attack of influenza and some swelling of the left leg.

CASE XCIX.

Multilocular Ovarian Cyst; Once Tapped; Phthisis (?); Ovariotomy; Recovery.

A HOUSEMAID, unmarried, twenty-three years of age, was sent to me in March 1864, by Dr. Mushet, of Norwood, on account of an ovarian tumour which filled the abdomen up to within two inches of the ensiform cartilage. She was emaciated, had a hectic flush on the cheeks, night perspirations, and cold hands and feet. Pain in the right hypochondrium often disturbed her sleep. Dulness on percussion, increased vocal resonance, crepitation, and prolonged expiratory sounds led to fear as to the state of the apices of both lungs. The pulse was feeble, and the heart sounds normal but irregular. The urine contained albumen, but this was due to admixture with leucorrhœal discharge. For the last two months she had been obliged to empty the bladder every hour. The catamenia had always been scanty, and latterly very irregular. She had 'seen nothing' for three months. The uterus was pushed backwards by a portion of the cyst distinctly felt between it and the bladder. The swelling had commenced in the left iliac region fifteen months before.

With a view of ascertaining how far the condition of the lungs depended upon the interference of the abdominal tumour

with the respiratory movements, I tapped her in the Samaritan Hospital, and removed twenty-six pints of ovarian fluid from a large cyst on April 13. This gave great relief, and she went on the 18th to the Convalescent Institution at Walton. She returned on May 13 in much better general health, was re-admitted on the 18th, and although the state of the lungs was not very satisfactory, ovariotomy was performed on May 23. Dr. Campbell of Boston, United States, and Dr. Nicholson of Antigua, were present. There were rather extensive adhesions all over the abdominal wall anteriorly, but they yielded easily, and the only peculiarity in the operation was the difficulty in dislodging the lower portion of the cyst from the pelvis. It was so tightly moulded or jammed down that it was quite immovable until I got my fingers between the tumour and the brim of the pelvis and dislodged it. It seemed as if atmospheric pressure, or a sort of suction, had something to do with it, as the air was distinctly heard by all present to rush in as the tumour was loosened. The pedicle was kept outside by a clamp. The right ovary was healthy. The wound was closed by silk sutures.

There is nothing to record of the after progress, except that it gradually tended to recovery. The clamp was allowed to remain till it became loose, and it came away on June 7. She was discharged on the 25th in good health. Dr. Mushet will watch her and ascertain if pulmonary disease should progress or disappear.

Dr. Ritchie examined the cyst, and the following is his description :—

'The tumour weighed two pounds fifteen ounces. It consisted of a sac, the size of an adult head, to one end of which was attached a resistant mass of about the size and shape of an ordinary placenta. This mass did not project into the interior of the sac ; but, on the contrary, appeared as if fastened on to its external surface, although without a pedicle. Except at its place of attachment, the walls of the sac were very thin, consisting of an external covering of peritoneum, a fibrous layer, and an internal membrane, which latter was delicate and covered with epithelium, and in some places with fibrinous deposit. The lining membrane was continuous all round the cyst, and with a little care might have been dissected off entire. The peritoneum was very closely attached to the fibrous layer beneath it, and this attachment became still more intimate at the point of junction of the sac with the more

solid mass; indeed, all around this line of junction, it was impossible to separate the two layers. On making a section through the placenta-like mass, it was found to be invested on every side by a firm fibrous capsule about two lines in thickness. This capsule sent projections into the interior of the tumour, and those projections met and crossed each other at different angles, so as to form a network. From the interstices of the network projected a number of thin-walled translucent vesicles containing a colourless fluid. The largest among them did not exceed the size of a small plum, while the smallest were mere specks. Most of the larger ones had been forced into an elongated oval shape, and as they projected from the fibrous network the latter formed a sort of collar, which embraced them. Some of the vesicles were very vascular, receiving little trunks of vessels, which ran along the fibrous bands. The vesicles could be enucleated entire. They appeared to be formed by a basement membrane epithelialized internally, and covered externally with shreds of fibrous tissue.

' In several of the vesicles a secondary cyst was observed to project into their interior from one point in their wall. It was true endogenous growth, not the mere accidental cohesion of two vesicles. The secondary cyst was usually simple, but in some instances it was rather a honeycombed mass; the cells of the honeycomb, which were large enough to contain a millet seed, being filled with a glairy mucoid fluid. In none of the cysts were two or more separate secondary formations to be discovered.

' Theory of the Formation of the Tumour.

' There can, I conceive, be no reasonable doubt that the placenta-like mass represented the ovary, while the large sac was an enlarged Graafian follicle, which had pushed its way outwards. From the intimate connection of the peritoneal and fibrous layers at the point of union, I am inclined to think that secondary adhesion had taken place between two layers of peritoneum at that point, the follicle having at an earlier stage been attached to the ovary by a comparatively narrow pedicle. The projection sent inwards by the tunica albuginea were in reality the stroma of the ovary, and the little vesicles peeping through the interstices were Graafian follicles, a few of which had ruptured and formed little spaces for themselves among the meshes of the stroma. With regard to the secondary cysts, I am strongly of opinion that they must be looked upon as degenerations of the ovum. They lay imbedded in a thickening of the lining-membrane of the Graafian follicle, in the very position in which an ovum would naturally be looked for. We know, too, that an ovum, a short time after it has arrived at maturity, presents the appearance of a simple sac filled with a straw-coloured fluid. With regard to the honeycombed masses

contained in some of the Graafian follicles, I think that they too must be supposed to be degenerate ova.

'I am aware that this opinion is not in accordance with any which has yet been broached, and that in putting it forward I am to a certain extent treading on dangerous ground. To prove to the general satisfaction that many ovarian tumours are really formed by the ovum, it might be necessary to trace the morbid development of the ovum step by step. This has not been done, and it will be long before each link in the chain can be demonstrated. We know, however, that an ovum, whether in the uterus or in the ovary, may become developed into a so-called dermoid cyst. Before such highly-organised structures as skin, teeth, bone, &c. can be produced, the ovum must have passed through a number of stages, in each of which it is liable to cystic degeneration. It has been surmised that moles are developed ova which have been partially impregnated; perhaps some cysts of the ovary are developed ova which have not been impregnated at all.'

CASE C.

Two Ovarian Tumours; One Tapped; Ovariotomy; Both Removed; Recovery.

A MARRIED woman, fifty-four years of age, was sent to me in December 1863, by Dr. Whitehead of Manchester, on account of ovarian disease, and as there was no urgent symptom it was arranged that she should wait. She returned to Manchester, and Dr. Whitehead wrote on the 7th April 1864:—
'I think the case favourable for ovariotomy. About six weeks ago I emptied the sac on the left side, and had reason to believe that the other sac is connected with the right ovary.' On the 29th of April he wrote:—'The sac which I emptied is refilling. The uterus is central, freely movable, no tumour on either side of it, but only a slight bulging, and that not lower than opposite the os internum.' On the 2nd of May:—'I have examined again. The uterus is certainly a little on the left side, and there is a bulging from above on the right, but this is diminished by rolling the tumour.' She was admitted to the Samaritan Hospital late in May, and ovariotomy was performed on the 2nd of June. Mr. Teale of Leeds and Dr. Aveling of Sheffield were present. Dr. Parson administered chloroform.

By an incision four inches long, extending downwards from one inch below the umbilicus, a non-adherent cyst larger than an adult head was exposed, tapped, emptied, and withdrawn. Its pedicle was secured by a clamp about three inches from the right side of the uterus, and the cyst cut away. A second cyst, nearly as large as the first, was then found on the left side, which was also tapped and emptied. Just as it was seized by the hooks on the canula, a knuckle of empty small intestine was caught by them, but it was instantly freed, and no ill effect resulted. The pedicle of this second cyst was transfixed, tied with strong silk in two halves, and secured to the clamp on the other pedicle after the cyst was cut away. The wound was closed by silk sutures. Recovery was uninterrupted except by a superficial abscess which formed beside the lower angle of the wound. The clamp was left till the 13th June, when it came away with the dressing and the ligature on the second pedicle. The patient was discharged in excellent health on June 23. The cicatrix measured less than three inches.

The two tumours were examined directly after their removal by Dr. Ritchie, who pointed out to me in each of them a number of small cysts which were evidently enlarged Graafian follicles. Knowing the great and long familiarity which Dr. Woodham Webb has had with the ova of various species of animals since his researches in conjunction with Barry, I asked him to examine some of the cysts, in order to ascertain whether they did or did not contain ova—knowing that upon this point no higher authority could be appealed to. As one friend has suggested that we may have mistaken a *blood corpuscle* (!) for an ovum, there was evidently some reason for my caution; but I trust that the following note from Dr. Webb will set all such doubts at rest :—

‘ Both the tumours you sent to me, after their removal from a woman fifty-four years old, were growths in excess of true ovarian structure. The multilocular character was produced by clusters of ovisacs of various sizes. Ova with the other natural contents were to be found in all the small sacs. The fibrous coats of the larger sacs were thickened, and had many other secondary sacs developed in them. The interior was lined with epithelium, which in some instances had, by parthenogenetic enlargement and successive buddings of the cells, given rise to

bunches of grape-like growths—repeated generations of imperfect ova. The whole, therefore, was nothing more than a reproduction in the human subject of conditions which are natural in some of the lower creatures. I suppose the description in your orthodox pathological terms would be hypertrophy of the ovisacs with arrested development of the contents?

As this discovery is of importance in the history of ovarian pathology, I add a letter from Dr. Ritchie, which was published in the 'Medical Times and Gazette,' August 6, 1864. He says:—

Before and since the particular observation referred to, I have been struck with the probability of many so-called ovarian cysts being actually due to degeneration of the ovum itself. In one ovarian tumour which, through Mr. Wells' kindness, I had an opportunity of examining, I found a number of thin-walled bladders, varying from the size of a cherry to that of a large plum. These bladders were easily enucleated from the fibrous stroma which surrounded them, and there could be no reasonable doubt that they were Graafian follicles somewhat distended by over-secretion. The interior of these cysts were searched in vain for the ovum, but I was much struck with the fact that in the great majority of them the cyst-wall was thickened at one point and at one only, and that on making a section through that point a small secondary cyst was discovered. No doubt it will be said that at this point endogenous growth had commenced, but it is a significant fact that there was only one such growth to each follicle, and that it lay imbedded in a thickening of its inner coat. What can be more probable than that it was the ovum lying imbedded in its cumulus prolixus?

We know that every ovum, whether it be fertilised or not, undergoes certain definite changes on arriving at maturity. The yolk, by successive cleavings, is transformed into the corpus muriformis. This mulberry body becomes hollow in its centre, and the cavity thus formed goes on increasing in size until at length it has forced its walls into contact with the yolk-bag, when it is known as the blastodermic vesicle. Those changes have, as far as I am aware, as yet only been observed while the ovum was contained in the Fallopian tube; but it certainly is perfectly conceivable that in those cases where ripe follicles fail to burst, the matured ovum should undergo its wonted metamorphosis while still contained in its ovisac. Nor is it absurd to suppose that under those altered circumstances the progressive dilatation of the blastodermic vesicle should occasionally exceed its normal limit and go on to the formation of a cyst which, in structure and position, would exactly cor-

respond to the little secondary cavity which was seen in the wall of the enlarged Graafian follicle.

I cannot think, however, that the ovum always stops short at this early stage of its development. Its constant tendency is towards the formation of a new animal, but when deprived of the stimulus of the spermatozoon, it constantly falls short of its aim. Perhaps it may go on to the production of what, were it found in the uterus, would be styled a grape-mole; perhaps other forms of cystic degeneration may be more frequent.

If this theory be correct, we have an easy explanation of the occurrence in ovarian tumours of such structures as true bone, true striated muscular fibre, fat, skin, teeth, &c., whose presence has never been satisfactorily accounted for. Nothing can be more certain than that ovarian cysts may be produced in a great variety of different ways. Kiwisch showed us how the fibrous stroma might hypertrophy and become cystic. Rokitansky, not content with having been the first to demonstrate the ovum in these cysts, has also been the first to describe minutely the morbid changes which may occur in corpora lutea. Very recently Dr. Wilson Fox had traced with great care modifications of the Graafian follicles themselves. Would it not be strange if, of all the constituents of the ovary, only one should be incapable of morbid alteration, and that one precisely the part in which the most active and most extraordinary changes take place physiologically? The point is susceptible of proof, and only requires patient investigation; but in the meantime nothing can be more probable than that the contents of many ovarian tumours are the result of perverted attempts at parthenogenesis.

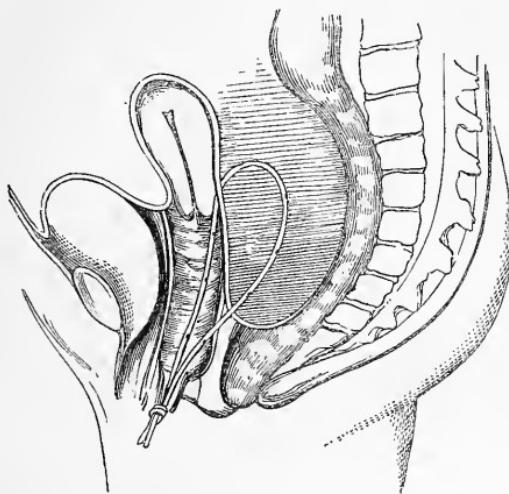
CASE CI.

Adherent Ovarian Tumour; Ovariotomy; Pedicle Returned; Haematocele Treated by Drainage; Recovery.

AN unmarried girl, 18 years of age, was sent to me by Dr. Whitehead of Manchester as a favourable case for ovariotomy, and was admitted to the Samaritan Hospital on the 5th of June, 1864. The disease dated from the commencement of the cata-menia, five years before, and six months after a leg had been broken, as she was run over when she was only 13. Increase had been rapid at first, but latterly slow. She had not been tapped. A point of great interest in diagnosis was observed in this case. The tumour was observed to move very freely

beneath the abdominal parietes on deep inspiration, and I therefore expected to find a non-adherent tumour. But at the operation very firm adhesions had to be separated. They were, however, sufficiently long to admit of the cyst moving freely. Ovariotomy was performed on the 13th of June. Dr. Parson gave chloroform. On making an incision, four inches long, midway between the umbilicus and symphysis pubis, three small cysts filled with gritty matter were exposed in the cellular tissue between the sheath of the recti and the peritoneum. These were dissected out. Long and very firm adhesions anteriorly and in the right iliac fossa, and a very extensive surface of adherent omentum, were separated by the hand with some difficulty, and a close adhesion to the fundus of the bladder was separated by very careful dissection. Eleven pints of fluid were removed by the trochar. The ovary appeared normal, while the tumour was attached to its external angle by a narrow pedicle, about one inch in length. The ovary was, however, removed with the tumour. A small pedicle was secured close to the uterus by a silk ligature, which was cut off short and returned. There was very little bleeding, and the wound was closed in the usual manner. The stitches were removed forty-four hours after operation, the wound being perfectly united. On the third day after operation some sharp pain came on, which became easier after a uterine discharge like menstruation appeared. She continued doing well till the 22nd (ninth day), when, after a sleepless night from pain and flatulence, she was found in a state resembling typhus-fever,—dry tongue, dilated pupils, flushed face, and drowsiness. As this condition became more decided in the afternoon, I examined by the vagina and rectum, and, detecting fluid between them, made a puncture by a trochar, and let out five ounces of dark bloody serum which had a putrid ammoniacal odour. This was followed by some relief. The pulse sank from 112 to 95 and 92, but mucus diarrhoea came on, and the typhoid condition was aggravated next day. As the discharge from the trochar-puncture had ceased, and examination detected fluid still in the recto-vaginal space, I made another opening into this space, evacuated ten ounces of fluid still more putrid than that of the day before, and containing pus. I then carried on the trochar through the opening made the day before, and drew a drainage tube through

the canula before withdrawing the latter. The tube was then tied and left fixed, as shown in the accompanying diagram. I took great care that it should pass through the lowest point where the peritoneum is reflected from the rectum to the vagina.



Very free discharge came through the tube for several days, and the general condition rapidly improved. The tongue and mouth were covered with aphthous spots for several days, and diarrhoea was troublesome. But the tube was removed on July 1, and convalescence was rapid. She was sitting up on the 6th, and was to leave for the country on the 14th. She went to the Seaside Convalescent Hospital at Eastbourne, remained there a month, and returned in perfect health.

In some remarks made at the bedside upon the removal by vaginal puncture, of collections of serum, blood, or pus from the most depending portion of the peritoneal cavity and upon tapping ovarian cysts and pelvic abscesses through the vagina, (a short report of which appeared in the 'Medical Times and Gazette' of July 16, 1864), I said that the result of my experience was that the danger of puncture had been very greatly exaggerated; that the benefit of the evacuation of fluid is often very marked; and that any danger arises from too early closing of the opening, not from the opening having been made. Where, in cases of blood-poisoning, it is very important to maintain a free passage for putrid fluids, the drainage tubes of Chassaignac render most valuable service.

The following is Dr. Ritchie's description of the cyst:—

Before it was emptied the tumour was irregularly spherical, with a diameter of eleven inches. Its outer surface was rough where adhesions with neighbouring organs had been separated, and besides there were scattered over it all manner of projections, varying in size from a pin's head to a large orange. The very smallest of these projections were vesicular, with clear transparent contents; others were formed by an encysted clot of blood apparently of old formation. One or two were solid, resembling the corpora albida of ovarian writers, a few had all the characteristic appearances of corpora lutea, and the very largest were smooth sac-like dilatations, communicating with the cavity in the interior of the tumour.

On making a transverse section through the tumour it was found to contain a large central cavity, so that at first sight it might have been described as a unilocular cyst. The walls of the cavity varied very much in thickness, at some places being about an inch and a half, in others only two lines. On examining a section of the wall it could not be distinguished from normal ovarian tissues; there was the same fibrous network enclosing little spaces, and here and there interrupted by small clear vesicles. The cyst itself was lined by a smooth mucous-like layer, which could not, however, be separated from the subjacent tissue. Running across the interior of the cyst, and partially separating it into two compartments, was an irregular band of fibrous tissue about an inch and a half thick. It was attached to and seemed to spring from the floor of the cyst, and had no connection whatever with its roof. At each extremity it split up into a number of branches, which could be traced a considerable distance ramifying in the walls of the cavity. The tissue composing the band was dense and very vascular, appearing indeed to have been the seat of recent inflammation. On slitting open the ovary and the pedicle which attached it to the tumour, the former was found to be quite healthy. Two corpora lutea were present, and the ovum was looked for and found in one of the Graafian vesicles which appeared to be near maturity. The pedicle consisted of ovarian tissue, its outer covering was the tunica albuginea, and within this sheath were found Graafian follicles containing ova. Externally the pedicle expanded into the tumour which has been described. It appeared just as if the pedicle had bifurcated, enclosed a cavity, and then reunited beyond it; for, as has been seen, the walls of the cavity were structurally identical with the tissue of the ovary, and there was no line of demarcation between them.

This tumour teaches us several lessons in ovarian pathology. It cannot be doubted that true ovarian tissue was in excess, that the ovary was hypertrophied or, to speak more correctly, hyperplastic. The right

ovary, minus the pedicle and the tumour to which the pedicle was attached, was of the normal size, and as both the pedicle and the tumour consisted of ovarian tissue, it follows that that tissue was in excess. With regard to the formation of the cavity a very simple explanation may be given. Suppose that a Graafian follicle arrives at maturity before reaching the surface of the ovary, the periodical pelvic congestion supervenes, and the follicle bursts not into the Fallopian tube but into the ovary itself, many of the meshes of the ovarian tissues are broken into a single cavity, and the whole nutrition of the gland is altered. The centrifugal course of successive crops of Graafian vesicles is arrested, because little resistance is offered to their progress towards the side on which the cavity lies, consequently they tend to approach this cavity and burst into it. Assisted by those additions the cavity increases in size, and by its gradual expansion its walls may become gradually thinner and eventually burst, or they may hypertrophy as they did in the instance we have just been considering.

Another peculiarity in this case was the separation of the tumour from the ovary by means of a pedicle an inch long. This is not an excessively rare occurrence; it seems that it is possible for one angle of an ovary to degenerate while the remainder remains healthy.

On a careless examination this tumour would certainly have been put down as extra-ovarian, and speculations might have been raised as to whether it was to be looked upon as a cyst of the broad ligament, or as an ovum which had escaped from the ovary and gone on developing in an unnatural manner. In this case the occurrence of Graafian follicles containing ova, in the walls of the cyst and in the pedicle itself, put all doubt aside. Such demonstration cannot be had in every case; but to show that the tumour is in reality intra-ovarian, it is sufficient to trace the continuity of the tunica albuginea of the ovary with the investing coat of the pedicle and tumour.

CASE CII.

Ovariotomy; Pedicle Returned; Haemorrhage; Fibrinous Deposits in Heart and Pulmonary Artery; Death on the Fourth Day.

A HOUSEHOLD servant, 24 years of age, unmarried, applied to me a few days after her dismissal as incurable from a large hospital, and was admitted to the Samaritan Hospital on June 13.

The whole abdomen was filled by a multilocular ovarian cyst, free from adhesions anteriorly, and without any unusual pelvic attachments. The uterus was rather high, the fundus a little to right side and cervix to left, but freely movable. The catamenia had been regular till September 1863, when they ceased suddenly, and nothing had been seen since. Four years ago she had a severe fall, and had been subject to pain in the right side ever since, but was otherwise in good health till two years ago. She then had a violent attack of pain in the left side and sickness, which was followed by swelling of the abdomen, the increase having been at first rapid but slow of late. She had had frequent attacks of violent pain in the right side, and had become quite unable to earn a living. She had lost flesh, but was not emaciated. The complexion was dark-red; the pulse was small and feeble, but the heart, lungs, and kidneys appeared to be healthy. She was kept under observation for about three weeks, was well fed, and the body cleansed from *pediculi*, with which it was infested, by repeated baths; when feebleness of pulse being the only contra-indication, ovariotomy was performed on July 4. Drs. Riant and Worms of Paris, and Dr. Beatty of Dublin were among the visitors. Dr. Parson administered chloroform with very great care, owing to the feebleness of the heart, and very little was taken, though vomiting occurred twice during the administration. The cyst, which was free from adhesions, was first exposed by an incision about four inches long below the umbilicus. It was then tapped, and $12\frac{1}{2}$ pints of dark fluid were evacuated. A large mass of secondary cysts and adenoid growths towards the right side then made it necessary to enlarge the incision, until it extended from three inches above to five inches below the umbilicus. The tumour then came away entire, after separating two small pieces of adhering omentum, and a broad short pedicle was first secured by a clamp close to the right side of the uterus. After cutting away the tumour the pedicle was transfixated behind the clamp, tied with strong silk in two halves, and a circular ligature was then tied behind the point of transfixion. The ligatures were then cut off short, and the uterus was allowed to sink into the pelvis. Two omental vessels were tied, the left ovary was found to be healthy; and a sponge passed into the abdomen and pelvis having come away almost unsoiled, the wound was

closed in the usual manner, and one small vessel in the abdominal wall was tied.

The patient went on badly from the first, the pulse scarcely ever being under 140, and sometimes rising to 168. She became very restless on recovering from the chloroform, complained of great pain in the back, and was very sick. Twenty drops of laudanum were injected three times into the rectum during the afternoon and evening, and she became easier, but complained of great oppression at the heart and faintness, and there was almost complete suppression of urine for twelve hours after operation. The day after she appeared rather better, but still complained of a very strange feeling about the cardiac region. The pulse was 160 all day, skin hot, and face flushed. On the next day there was a free oozing, partly of blood and partly of reddish serum, from the upper part of the wound. After this she felt easier, the urine became more copious, and she took some nourishment, though vomiting was still troublesome. In the evening diarrhoea came on, and some tympanites. On the third day (sixty-eight hours after operation) I removed all the sutures, as the wound seemed to be firmly united, and I reapplied strapping. The pulse was then 168, and she complained of faintness and exhaustion. In the evening some bleeding came on from the lower part of the wound, and Dr. Parson, finding it gaping, reapplied some of the sutures. She continued to sink all night, and died ninety-two hours after operation.

The body was examined seven hours after death by Dr. Barratt. He reported :—

'Body warm; rigor mortis not fully established. Below the umbilicus an incision about eight inches long externally, probably an inch shorter on peritoneal surface. The sutures which were retained do not close the wound throughout, so that, at the central part, intestine can be seen clearly between edges; no union had taken place. An oval flap, laying bare the abdominal cavity, disclosed a general tympanitic state of stomach and intestine, except the transverse and descending colon, which were greatly contracted and empty, a diffused dark bloody discoloration of great omentum and surface of bowels; venous coagula and general infiltration around the right inguinal region. Seven ounces by weight of dark fluid blood were removed from the cavity of the pelvis, and in some of the more dependent parts of abdominal cavity

there were small coagula. The right broad ligament of uterus had coagula adherent, and was reduced to a very short pedicle. The tumour must have been "sessile" almost. The pedicle has two transfixing ligatures, which enclosed both the Fallopian tube and the round ligament; but a ligature which had been passed behind them at the time of the operation, higher up, could not be found. It had evidently slipped off, and permitted oozing of blood from the spermatic veins. Some slight adhesions between neighbouring folds of intestine were just commencing, but no general or partial peritonitis. Iliac vessels intact; iliac veins containing fluid blood. Thorax.—Lungs very healthy; heart natural size; right ventricle relaxed; valves very healthy. A tough fibrinous clot, free from blood corpuscles, filled right ventricle, with tenaciously-interlaced roots amongst the corneæ columnæ, communicating by a small branch through the auriculo-ventricular opening with a ball of fibrin in right auricle capped with black coagulum. The main stem of clot passed up into pulmonary artery, and there penetrated vessels to the second and third divisions, from which it could be drawn in threads. Left ventricle entirely empty, and contracted firmly. Left auricle contained a little fluid blood; pericardium a small quantity of serosity (one ounce).'

Dr. Barratt adds :—

'This case suggests the inquiry as to the part the heart-clots play in bringing on a dissolution. This was no case of metastatic deposit, or septicæmia from infectant fluids, neither was the clot a last link in the chain of events attendant on death with local stasis. It indicates a reduction of vitality of the general mass of the blood, either temporary or permanent, natural or induced; and as a pure and uncomplicated case, illustrates the view that, in such cases, it is on *the right side* of the heart clots during life will be found to form, and that, in a word, *the right side dies first*; the impress of deterioration primarily falls there, and chemical changes there begin to develope. It is a matter of deep interest as a pathological inquiry in all operations, and it is also a problem yet to be solved, as to what are the *remote* as well as immediate consequences of chloroform under varying conditions of vitality that occur in different persons and habits.'

I looked upon the case from the moment of the operation as one of clot in the heart. The very rapid irregular pulse, the vibration rather than contraction of the heart, the absence of the usual sounds, the flushed face, the cold extremities, the laboured respiration—all pointed to the same conclusion. When the intra-peritoneal haemorrhage took place is not very clear;

but at any time it would have aggravated the consequences of the cardiac clot. A heart originally feeble made still more so by nervous apprehension, subjected to the influence of chloroform, to the shock of a severe operation, and to the effect of repeated doses of opium, would certainly be in a very favourable condition for deposit to take place. The right auricle containing clot, the return of blood from the inferior cava would be impeded, the spermatic veins gorged, and the slipping of a ligature assisted. Or, supposing the ligature to have slipped early, the bleeding, though it was not to any great amount, would certainly have made the heart weaker and hastened the deposit of fibrin. On either hypothesis the practical lesson is—not to be satisfied with any ligature upon a tissue so retractile as that of the pedicle of an ovarian tumour, unless it is prevented from slipping by transfixing the part to be secured. In this case the transfixated ligatures held firmly; but that which was passed behind them, and included another part of the pedicle, although it was tied very tightly, became useless. In a strong person this might only have led to retro-uterine hæmatome, but here it became one link in the chain of events which ended in death.

The following description of the tumour removed is by Dr. Ritchie:—

'The tumour, when examined, was an irregular oblong mass, eleven inches long, nine broad, and eight thick. There was no pedicle attached to it, but the place where its connection with the uterus had been severed was marked by a raw surface seven inches long by two-and-a-half broad, from which the peritoneum was wanting. Structurally, the tumour consisted of two large cysts situated anteriorly, and a number of smaller ones. Some of these latter projected partially into the larger cysts. Both of the large cysts had been tapped during the operation, the trochar having evidently been thrust through from the one into the other. Each cyst showed traces of having at an earlier period consisted of several loculi; the lining-membrane had a mucoid appearance, and was covered with tesselated epithelium, patches of deposit occurring at intervals. The anterior wall of the cysts was comparatively even, but from the posterior projected a number of lobules, from the size of a hazelnut to that of a small pippin. All the lobules evidently contained fluid, but the degree of tension varied in each. Some of the lobules had adhered together near their apex, and as the union did not extend to their base a canal was enclosed. On cutting

into the lobules they were found in the majority of cases to consist of a simple cyst, the nature of the contents varying very considerably. In some there appeared to be nothing but clear serum, while others were full of a tarry tenacious fluid, others of pus, others of blood. A microscopical examination showed that the tarry fluid consisted of altered blood. In the clear serum were found a number of large corpuscles, nearly double the size of the white corpuscles of the blood. The contents of the corpuscles were for the most part granular, but in some of them oil globules could be detected. Besides these large corpuscles were a number of small ones, smaller than the red globules of the blood, nucleated for the most part, and having no tendency to run into rolls. One of the lobules was found to consist of a cyst, within which were a congeries of smaller ones, and a solid mass. This latter was yellow, of the consistence of cartilage, and its surface was studded over with warty papillæ the size of a pin's head.'

CASE CIII.

Non-adherent Cyst; Never Tapped; Ovariotomy; Pedicle Returned; Pelvic Hæmatocele; Death Twenty-nine Days after Operation.

THIS patient was born in London of healthy parents. She was brought up in an open part of the town, and although never robust was not very delicate. In May 1863, when twenty-seven years of age, she married, and went to live at Croydon. A month after her marriage she observed a fullness about the abdomen, and as the catamenia had ceased, she naturally imagined that she was pregnant. The abdominal fullness increased, and a distinct tumour was soon to be felt rising out of the pelvis. The catamenia returned, and considerable pain in the lower part of the abdomen was experienced; but the patient was not undeceived, and at one time imagined that she felt the movements of the supposed foetus. Under this impression she requested Mr. Picken, of Croydon, to attend her in her confinement. The tumour went on increasing until January 1864; it then remained stationary, or its rate of increase was extremely slow. At Mr. Picken's request I saw the patient on the 8th of June 1864. She was then thin, and had several spots of lepra upon her skin. The girth of the abdomen at the umbilical

level was then thirty-six inches, the distance from the ensiform cartilage to the pubes fifteen inches, and from each ilium to the umbilicus $9\frac{1}{2}$ inches. The whole of the abdomen was occupied by a large fluctuating tumour. The uterus was freely moveable; it was rather high, and somewhat pushed to the left side; the os and cervix were normal. The vagina was somewhat encroached upon on the right side, where the cyst appeared to bulge downwards. My diagnosis was multilocular ovarian cyst, and I recommended immediate excision. The operation was fixed to take place at Croydon on June 16, but the catamenia came on unexpectedly, and did not cease until the 25th, so that it was put off until July 5. Dr. Beatty of Dublin, Dr. Ritchie, and Mr. Picken assisted me at the operation; and chloroform was administered by Dr. Parson.

The incision was commenced one inch below the umbilicus, and carried downwards $3\frac{1}{2}$ inches. There were slight adhesions all around; some above the umbilicus were rather vascular, and towards the right iliac region they were firm, although they were easily separated. The pedicle, about $1\frac{1}{2}$ inch broad, was two or three inches from the left side of the uterus, and closely connected with the mesocolon. A small clamp was put on, but it was found that there was too much drag upon the sigmoid flexure; the pedicle was therefore transfixed, doubly tied, and returned. The right ovary was healthy. During the operation there was but little bleeding; the wound was brought together by five deep and four or five superficial sutures. The following is Dr. Ritchie's report of the tumour removed:—

'It weighed three pounds, and fifteen pints of dark fluid were obtained from it. When blown up the tumour was found to have the form of a flattened sphere, being ten inches long, nearly ten broad, and somewhat less from before backwards. Structurally it consisted of one large cavity, which, however, showed traces of having previously been divided into several compartments: the walls of this cavity varied in thickness in different parts. Anteriorly they were about two lines thick; but this thickness was increased at rare intervals by small mural cysts of the size of a pea. Laterally these mural cysts were more frequent; they were larger and had a tendency to agglomeration, while, posteriorly, the wall was formed by a mass of cysts heaped together, and measuring in the aggregate seven inches in length, four in breadth, and three in thickness. The smaller cysts contained a

mucous glairy transparent fluid, some of the larger ones an admixture of blood and pus.'

Twenty drops of laudanum were injected very shortly after the operation ; the pulse was weak and intermittent, and a dessert-spoonful of brandy was administered. As the pain continued severe the laudanum enema was repeated late at night. The patient passed a tolerable night, and next day was pretty free from pain, so that no more opium was necessary. On the afternoon of the 7th, forty-seven hours after operation, I found her apparently well, and removed all the stitches, as the wound appeared firmly united. The voice, aspect, and pulse were all good. So satisfied was I, that next day I wrote to say that I should not go down again unless sent for. But uterine discharge (catamenia?) came on at five on the morning of the 8th, and during the day the patient was sick and restless. At nine in the evening, after an attack of vomiting, the lower part of the wound opened, and a good deal of reddish serum escaped. I saw the patient next morning, and found a full inch of the wound open, but no intestine to be seen. I put in two harelip pins to prevent any further opening, but left the lower angle of the wound open to admit of the escape of serum. On the 10th the patient was very low, the aspect jaundiced, the pulse 136, the abdomen tympanitic. In the evening the countenance was that of death, the skin hot and dry, the pulse 140, the abdomen much distended with flatus, not tender to pressure, and evidently containing some fluid. A vaginal examination showed indistinct fluctuation high up behind the uterus. For some time the patient had been freely stimulated, and at intervals she had vomited matters like chopped grass. The heart's tones were normal, the urine abundant.

At night there was violent colic, followed by the expulsion of much flatus per rectum. This followed the hourly administration of five grains of sulphate of soda in water, which was continued during the night. There was no further vomiting, and at nine next morning the skin was moist and the pulse 120. During the next day (11th) the patient remained much in the same state, the medicine was intermittent, and stimulants administered. The green vomiting recurred in the evening. On the 12th the patient was much weaker, the skin clammy, the

tongue raw, the pulse 160, the first sound of the heart almost imperceptible. One of the harelip pins was withdrawn, and one finger was introduced into the peritoneal cavity, but only about half an ounce of reddish grumous fluid came away.

At eight o'clock next morning (13th) there was a telegraphic message that the wound had commenced discharging at midnight, and that since then the patient had been going on favourably. At 3 P.M. the skin was cool and moist, the pulse 136, tolerably good, the first cardiac sound still very feeble, the abdomen less tympanitic than before, not tender on pressure, and the wound discharging freely. On inquiry into the history of this favourable change it appeared that, in consequence of some lumps of faeces having been discovered in the rectum, an enema of soap-and-water had been ordered. A good deal of faecal matter had been evacuated, and (perhaps from the exertion of getting on the bed-pan) the wound had discharged about three ounces of pinkish-white thick curdy fluid; shortly after this the patient had fallen asleep, and slept soundly for two hours. On the 14th she continued much in the same state, but complained of pricking pain in the epigastric and left hypochondriac regions; this was relieved by laudanum and fomentations. On the 15th the patient was a good deal stronger, the pulse was 130, the tongue very raw, the skin dry, and a free foetid discharge was coming from the wound. She complained much of urticaria, with which the body was covered, and the bowels had been opened several times. During the night the urticaria was so troublesome as to prevent sleeping; retching continued all night. Next morning (16th) the pulse was 133. Quinine and sulphuric acid were ordered. On the 17th it was found that she had passed a good night, and that the urticaria was much relieved; there was frequent discharge of mucus from the rectum, mingled with very foetid faecal matter. The pulse was 130, rather weaker. On the afternoon of the 18th the pulse was 124, the patient restless and fretful, and the urine scanty; the urticaria had disappeared, but mucous diarrhoea persisted.

On examining *per vaginam* I found considerable fullness in the pelvis, especially on the right side; and I passed a straight trochar immediately behind the uterus into Douglas's space, and $3\frac{1}{4}$ pints of abominably foetid black tarry fluid were evacuated. There was a little bleeding on withdrawing the

canula, but it ceased spontaneously. On the 19th the pulse was 120, the mouth still very sore, the mucous diarrhoea persistent. On the 20th the retching was frequent, the tongue, gums, and tonsils covered with white deposit, the pulse 130, and the skin dry. There was large mucous crepitation in the left lung, while the apex of the right lung was a little dull on percussion; the diarrhoea was less. On the 21st the retching had ceased, the pulse was 133, weak, the mouth a little cleaner. The trochar was again introduced into the recto-vaginal pouch, and rather more than a pint of black foetid fluid discharged. The canula was left *in situ*, but during the night it slipped out; next day it was reintroduced, and some more fluid discharged. On the 23rd the pulse was 136, very feeble, but the patient had passed a good night and felt better. The black fluid had drained through all night, about $1\frac{1}{2}$ pint having been passed since the re-introduction of the canula. Beef-tea, wine, and Bass's pale ale were given *ad libitum*. On the 24th she was rather worse, bed-sores were beginning to form, the diarrhoea was increased, and the pulse had risen to 140. A water-bed and an opiate enema were ordered.

Next day the discharge had somewhat changed its character; it was less foetid and of a lighter colour. The pulse was 140, the skin hot and yellow, the right side of the thorax dull. Eggs beaten up with milk were taken freely. On the 27th the discharge was free, foetid, yellow, and purulent—the pulse 140; in the evening an opiate enema was required to procure sleep. On the 29th the pulse was still 140; the bed-sores, however, were almost well. The right lung continued dull. The rectum was cleared by an enema. On the 31st the pulse was 144; the cough, which had commenced a few days previously, was troublesome; the abdomen was retracted and not tender on pressure except just over the epigastrium. On the 1st of August she was in the same state, the foetid fluid still trickling away from the tube. As long as she lay quiet little fluid came away, but whenever she altered her position there was a gush through the canula. The canula was withdrawn, as it was supposed that the fistula would remain open without it, and that the canula itself might be keeping up the irritation.

Next day it was found that the flow had stopped. The aperture was probed without causing uneasiness to the patient, and

one ounce of fluid came away. On the 3rd she was evidently sinking; she had a bad night, and the pulse was 144. Strangely enough she asked for and relished some duck and green peas; she also took her brandy freely. In the evening wheezing came on. Next morning the breathing was gurgling, the lungs dull at the most dependent parts. The fluid still came away freely; the urine contained a trace of albumen and of bile; it was of normal specific gravity. In the evening the patient died quietly, conscious until the last moment.

The body was examined, 20 hours after death, by Dr. Ritchie and Mr. McFarlane. The following is Dr. Ritchie's report:—

'The rigor mortis was considerable, the abdomen distended and tympanitic. An incision was commenced at the left false-ribs, carried down to Poupart's ligament, across to the same ligament on the opposite side, and then upwards to the right false-ribs. The incision implicated the whole thickness of the abdominal wall, including a layer of peritoneum. It was now found that none of the small intestines descended into the pelvis, but were firmly glued to the flap, which had just been formed. The position of the pelvic viscera, properly so called, was quite normal, except that the place of the left ovary was occupied by a little capsule of lymph, enclosing the ligatured stump. The recto-vaginal pouch was empty: a probe, introduced through the opening in the vagina made by Scanzoni's trochar, passed fairly into the pouch. The utero-vesical pouch was filled with creamy pus. It now became evident why so much fluid had been discharged whenever the position of the patient was altered. The pus in the utero-vesical pouch was prevented flowing into Douglas's space only by the ridge formed by the uterus and broad ligaments, and at every motion of the body a little of the fluid overflowed the barrier and gravitated into Douglas's space, whence it found a free exit. The large irregular cavity was capable of holding about a gallon of fluid: during life it must have been full of air. It was bounded superiorly by coils of small intestines firmly adherent to each other and to the anterior abdominal wall. In the pelvis itself were no false membranes, with the exception of the few flakes of lymph partially incapsulating the pedicle, as has already been mentioned. On attempting to separate the intestines from the anterior abdominal wall it was found absolutely necessary to use the knife, as the adhesions would not give way to traction. It was then discovered that, although the intestines were for the most part firmly matted together, still at intervals pus had collected between the coils, forming a large number of small circumscribed abscesses. One of these abscesses was immediately beneath the abdominal wound, which had perfectly united.'

This case impressed me strongly with the disadvantage of the plan of returning the tied pedicle into the abdomen. In many respects it closely resembled case 59, in which I had been obliged to allow the pedicle to return into the abdomen the day after operation. In both patients uterine discharge came on; pelvic haematocele was the result, and pyæemic fever. In both I think a more effectual drainage of the recto-uterine pouch might have been advantageous, such as afterwards proved so satisfactory in case 101; but in this case the extensive diffusion of the peritonitis and the formation of multiple abscesses amid the adhering coils of intestine must have prevented recovery.

To Mr. Picken of Croydon and to Dr. Ritchie I am much indebted for the assiduous care with which they carried out the after-treatment.

CASE CIV.

Ovarian Tumour; Never Tapped; Ovariotomy; Recovery.

A LADY, 32 years of age, consulted me, by the advice of Professor Simpson, on the 30th of June 1864. She had been married for three years, but had not been pregnant, and she had felt perfectly well up to February of the present year. She had always been regular, and she menstruated as usual on the 12th of February. To her surprise the catamenia returned on the 21st of the same month, and she observed that there was a little abdominal fulness. On the 9th of March she consulted Dr. Henry Bennet, at Mentone, and was assured by him that there 'was nothing wrong with the womb nor with anything else.' Next day the catamenia reappeared. Since that time the abdomen had been steadily increasing in size, and for the last three or four weeks the legs had been swollen and oedematous. On her way homewards Professor Wolff, of Bonn, had discovered an ovarian tumour. On examination I found the girth at the umbilical level to be $33\frac{1}{2}$ inches, the distance from the ensiform cartilage to the pubes 17 inches, and from each ilium to the umbilicus 10 inches. A fluctuating moveable tumour was found, extending up as high as the epigastrium. There was no tenderness on pressure, and crepitus was neither heard nor felt.

The uterus was freely moveable, small, and central; the length of its cavity was 2 inches. As the patient lay on her left side a small roundish body was felt behind and to the left of the uterus. Dr. Priestley, who examined with me, had some doubt as to the nature of this body: my own impression was that it was the right ovary enlarged (or a cyst near it) and pushed down by the tumour on the left side. On the 3rd July the catamenia, which had reappeared, ceased. I examined on the 4th, and found the uterus pushed somewhat backwards; on the 7th it was pushed forward. On the 11th of July I performed ovariotomy, with the assistance of Dr. George Keith of Edinburgh, Mr. Burford Norman, Dr. Montizambert, Dr. Wright, and Dr. Ritchie, chloroform being administered by Dr. Parson. A four-inch incision was commenced about an inch below the umbilicus; a large cyst was tapped, and there being no adhesions the tumour was easily extracted. The pedicle was found to spring from the left side of the uterus, and by including the neck of the cyst in the clamp the pedicle was left almost three inches long. There was scarcely any haemorrhage. The right ovary felt healthy, but a cyst the size of a walnut was discovered in the right broad ligament low down behind the uterus. It was laid open and emptied of some clear fluid. One deep and two superficial sutures were introduced below the clamp, and three deep and three superficial above it.

For the first few hours after the operation there was a good deal of pain, and seventy drops of laudanum were given within three hours after the termination of the operation. The patient passed an excellent night; next morning the pulse was 104, but during the day it fell to 96. In the evening uterine epistaxis came on. On the morning of the 13th the pulse had fallen to 88, although in the afternoon it once more rose to 96. The discharge came freely from the uterus, none coming away by the wound. On the 14th three stitches were removed, the wound being nearly closed. On the 16th the patient was low and nervous; wine was ordered. There was free purulent discharge from the middle of the wound. On the 19th the bowels were slightly moved after castor-oil and an enema. On the 23rd the clamp was removed, and the patient afterwards improved very rapidly, although the weather was intensely warm, and there was considerable purulent discharge. On the 10th of August she left for Liverpool by the night-train; she bore the

journey well, and was soon restored to health, although recovery was retarded by anxious attendance upon an invalid relative.

Dr. Ritchie reported that—

' The tumour which was removed consisted of a large simple cyst about a foot in diameter, marked internally and externally with occasional inflammatory deposit. The wall of the cyst was, as usual, capable of being split into three membranes, the most internal of which was extremely vascular. At one point of its disk there was attached to the cyst a sessile cake-like tumour of the size of a large orange or a small melon, and it was just where this cake and the large cyst met that the remains of the pedicle (consisting of the Fallopian tube, enlarged vessels, and ovarian ligament) were to be found. On examining more closely the connection of the cake-like tumour with the larger cyst, it was found that on the outer surface they were separated by an ill-defined ring of white fibres, the peritoneal layer enclosing, however, both the one and the other. Internally the lining-membrane of the cyst was reflected for a little way over the cake; it then seemed to lose its vascular character, and become white and fibrous in some parts, yellow and fatty in others. Two or three breaches of continuity were established, and through the irregular foramina thus formed projected—(a) a translucent vesicle of about the size of a gooseberry, containing a dirty greenish fluid, and (b) a quantity of tissue in different stages of fatty degeneration. On its external surface the cake-like tumour was more or less lobulated; some of the lobules being translucent, and evidently containing fluid, others having a mottled appearance and a firmer consistence.

' On making a section through the cake, it at first sight appeared to be a cheesy mass, but on more careful examination it was found to consist of a fine network whose meshes contained a jelly-like fluid. The meshes varied very much in size. The great majority of them appeared to be about twice the size of a pin's head, and separated from each other by partitions about one-quarter of a line thick; some of them were, however, three-eighths of an inch broad and one inch or more long. The walls of these latter were considerably (perhaps four times) thicker than the others; they could be dissected free, and were found to be continuous with and to branch from the tunica albuginea. Further, it was seen that from the outer (attached) surface of these walls sprang the slender twigs which formed the partitions of the smaller meshes. In some places all trace of distinct stricture was lost, the tissue having softened and broken down into a semifluid mass.

' There could be no doubt that the large cyst was an enlarged Graafian follicle, and the cake the remains of the ovary. The latter had all the structure of the ovary; i.e., the tunica albuginea sending inwards pro-

jections, which enclosed meshes of varying size, the larger ones being distinctly epithelialized (tesselated), and filled with a viscid fluid, which, microscopically, was found to contain a large number of small globules the size of blood corpuscles. One thing is worthy of notice — the larger cysts were not spherical but elliptical. Was this the effect of pressure, or was it a return to the tubular arrangement which has lately been so much talked of?

This case presents no unusual features of interest except the rapidity with which the disease seems to have unmasked itself, and the fact of the cyst of the right broad ligament having been diagnosed before the operation to be a cyst either of the right ovary or of the broad ligament.

CASE CV.

Multiple Cyst; Nine Tappings; Ovariotomy; Recovery.

ON the 22nd of May 1860 an unmarried lady, 33 years of age, was sent to me by Mr. Savile, of Rotherham. Her abdomen was filled by a moveable multilocular cyst; the uterus was normal and moveable, but the anterior wall of the vagina was pressed downwards by the tumour. The general health was tolerably good. Six years before I saw her, a swelling low down on the right side appeared to follow recovery after severe tonsillitis. The swelling increased till September 1856, when Mr. Hey of Leeds tapped her, and removed 21 pints of clear fluid. She refilled very slowly, and it was not until two years and a half after the first tapping that a second was necessary — in February 1859, when Mr. Savile drew off half a pailful of greenish thin fluid. As such long periods of relief were obtained by tapping, I advised her not to run the risk of ovariotomy until it became evident that no great good could be obtained by tapping. Later, in 1860, Mr. Savile tapped her for the third time; in December 1861 for the fourth time; and three times between this and the seventh tapping in December 1863. The quantity by this time had increased to 17 quarts. The eighth tapping was in February 1864. She was so ill after this that Mr. Savile was unwilling to risk a repetition, and she came to town to see me again in May. I advised her to have ovariotomy performed without delay,

but she was unwilling to remain in London, and returned home. It was arranged that I should operate about a week after the menstrual period, which ceased on June 7; but I was unable to leave London, and Mr. Savile tapped her for the ninth time on the 14th of June, and removed 17 quarts of thicker fluid than before. She recovered well, and I performed the operation, at her home in Yorkshire, on the 16th of July 1864. Dr. Sadler of Barnsley administered chloroform; and I was most ably assisted by Mr. Blythman of Swinton, Dr. Clarke of Wentworth, and Mr. Savile of Rotherham. A non-adherent cyst was exposed by an incision in the usual situation four inches long. About nine pints of fluid escaped through the canula; and then a group of small cysts, weighing about two pounds, was drawn out of the abdomen without difficulty. The pedicle was easily secured by a small clamp and kept outside without traction. There was no haemorrhage. The left ovary was healthy, but I felt a small fibroid outgrowth from the fundus of the uterus; I did not interfere with it. The wound was united by four deep and some superficial silk sutures. It was satisfactory to find the diagnosis as to absence of adhesions verified, notwithstanding nine tappings.

When I left, two hours after the operation, she was becoming comfortable, and Mr. Savile took charge of the patient; to his great care and able management the good result is due. She had a good night; but next day some tympanites, tendency to vomit, and rapid pulse, led to some apprehension; there was also much pain down the right thigh. On the 22nd Mr. Savile wrote that she was better. He removed the sutures on the fourth day; from the track of one of them a good deal of pus was discharged. There was no drag on the pedicle, so the clamp was not disturbed. The skin was covered with large blotches of urticaria and the mouth and fauces with aphthous spots. Two days before this, that is on the second day after operation, a uterine discharge came on, although the catamenia had ceased only a week before operation. On the 26th Mr. Savile wrote that our patient had been gradually improving since his last letter: 'Her bowels were moved this afternoon. She has no pain, no dragging of the pedicle, but there still continues a great deal of discharge from the deep sutures. The urine is much more abundant and clearer, but still ammoniacal.'

On August 5 he wrote that she 'has gone on well ever since I wrote last. I removed the clamp on the eighteenth day. The nurse will leave to-morrow.' She continued to recover satisfactorily, and I had an excellent report of her recently.

CASE CVI.

Multiple Ovarian Cyst; Once Tapped; Ovariotomy; Recovery.

IN July 1863 an unmarried domestic servant, 34 years of age, was sent to me by Dr. Jackson, of Notting-hill Square. She was a cheerful-looking woman, and although she said that she had fallen off considerably, still she could not be said to be emaciated. The digestive organs did not appear to be much deranged, although epigastric pain was complained of, and there was habitual diarrhoea. The nervous system seemed also tolerably healthy. There was no dulness over the lungs, but the respiration was somewhat creaking; and as the patient stated that for the previous six months she had coughed and expectorated muco-pus, it seemed just possible that there might be a little scattered tubercle. Against this view was the fact of no hereditary disposition being present, and no haemoptysis having occurred. The patient lay best on her back: the pulse was 82, and the heart's tones normal. The urine was abundant, contained lithates but no albumen, and its special gravity was 1022. It had to be voided at frequent intervals. The girth at the umbilical level was $36\frac{1}{2}$ inches, the distance from the ensiform cartilage to the symphysis pubis 17 inches, and from either ilium to the umbilicus 9 inches. The hypogastric, iliac, and umbilical regions were occupied by a firm tumour, which appeared perfectly free and unattached to the abdominal parietes. There was no pain on pressure, and no crepitus. The uterus was normal, moveable, but high up and pushed backwards by a resistant tumour in the vesico-uterine fossa. Some of the follicles around the nipple were enlarged, the mammæ themselves were virginal, and the areolæ pale.

The history gathered was that in the year 1858 she was attacked with gastric fever. She made a slow recovery, and was never restored to her original health, being much troubled

with habitual looseness of the bowels and pain, especially in the left groin. The catamenia continued regular, as they had always been since the age of sixteen, but there was a constant leucorrhœal discharge. The patient, however, was able to work, and was in service at Notting-hill. In October 1861 she first observed a tumour in the right iliac region. It was tolerably hard and very tender to the touch, but at first it increased slowly, morning sickness and a feeling of weakness in the legs being the only additional symptoms complained of. A year passed away, and the tumour had risen considerably in the abdomen; it approached the median line, and nearly reached the umbilical level. Dr. Jackson was called in. He attended to the general health, and it was not till nine months later—that is to say twenty-one months after the discovery of the tumour—that he thought it necessary to send her to me.

Even then, as she did not seem to suffer much from the presence of the tumour, I recommended further delay, and she returned to her situation. Towards the end of the year the tumour began to increase more rapidly, while unpleasant symptoms developed themselves. The legs became œdematosus, breathing was often laboured, and pain in the abdomen and thighs was frequent and severe. On the 18th February 1864 she was admitted to the Samaritan Hospital. The girth at the umbilical level had increased to thirty-nine inches; the distance from the ensiform cartilage to the pubic symphysis remained seventeen inches, but from the ilium on either side to the umbilicus it was now eleven instead of nine inches. The abdominal tumour was still free, but it extended into the epigastrium, and fluctuation was well marked. I tapped in the median line, and drew off $11\frac{1}{2}$ pints of highly albuminous brownish fluid of specific gravity 1020, which, on being examined microscopically, was found to contain much blood. Three days afterwards the tumour was found to be chiefly on the right side of the median line, and to be distinctly lobulated. The diagnosis was—‘Multilocular ovarian cyst, free from parietal adhesions; connection with uterus probably close.’ The patient was discharged on February 27, and advised to return for ovariotomy. On May 24 she returned. The tumour was as large as it had been previous to the tapping; it bore down on the anterior wall of the vagina, and pushed the uterus far back.

The patient expected her menses in a fortnight, and it was arranged that ovariotomy should be performed immediately on the cessation of the discharge. In the meantime iron was ordered, and it was not until July 22 that the operation was performed, in the presence of Mr. Jordan of Manchester, Dr. Bernardet of Paris, and Dr. Jackson. Chloroform was administered by Dr. Parson. The incision was commenced one inch below the umbilicus, and was carried four inches downward. The tumour was laid bare, and two large cysts were opened. There were no parietal adhesions, but a large piece of omentum had to be separated from the upper part of the cyst. The pedicle was of the breadth of one finger, and, contrary to what had been expected, was long. It was, however, twisted upon itself, and there was a good deal of œdematous effusion into it, giving rise to the appearance of containing small cysts. The pedicle was secured by the smallest-sized clamp, and kept outside without any traction on the uterus. The separated piece of omentum was tied in two portions, cut off short, and returned; there was little haemorrhage from it. The opposite ovary (left) appeared healthy. The wound was closed by deep and superficial silk sutures.

The weight of the tumour was two pounds, after about sixteen pints of fluid had escaped from it. It was sent to the College of Surgeons, where it was injected, and forms a good specimen of multiple cyst of the ovary.

After the operation there was a good deal of sickness, and at night the pulse had risen to 118. Next day the patient was better; the pulse was 108, and the perspiration and urine abundant. On the 24th the sickness returned, and there was a little green vomiting; the pulse was 120, full and soft, the tongue white, the abdomen somewhat tympanitic; the aspect was, however, pretty good. Next morning the catamenia came on, and in a short time the pulse fell to 104. Up to August 1 the patient improved steadily. On that day the clamp was removed, and in cutting through a small piece of slough there was some bleeding, which necessitated a ligature. This little accident had no ill effect whatever upon the patient; she gradually got stronger, and on August 19 went to the Convalescent Hospital at Eastbourne. She called after her return in excellent health.

I pointed out to the gentlemen present, after the operation, that this case was interesting on account of the error in diagnosing the length of the pedicle. Instead of the pedicle being absolutely short, it was only apparently so, on account of its being twisted upon itself. In other words, the rotation of the tumour and twisting of the pedicle pulled up the uterus, and depressed the anterior wall of the vagina in such a manner as gave a false impression of close connection between the cyst and the uterus.

CASE CVII.

Pseudo-Colloid Tumour ; Never Tapped ; Spontaneous Rupture ; Peritonitis ; Ovariotomy ; Death on the Eleventh Day.

ON October 13, 1864, I received letters from Mr. Carden of Worcester, and Mr. Jotham of Kidderminster, respecting a widow-lady, 44 years of age, suffering from a large ovarian tumour which had only appeared during the preceding three months, and had increased so rapidly that she was unable to undertake the journey to London. Increase of the abdomen had not been noticed before the middle of August, and latterly the enlargement had been at the rate of about three inches a week in girth. There was much gastric irritation, and frequent abdominal pain and tenderness. She had had two children, the youngest being eight years old, and no miscarriage. The cata-menia had been latterly rather excessive and the intervals short. Mr. Carden described the tumour as having a very distinct and irregular outline, and although elastic, nowhere fluctuating in such a manner as to prove the presence of fluid. Tapping could be of no service, and ovariotomy was agreed to. I went into Worcestershire to perform the operation, and saw the patient in consultation with Mr. Carden and Mr. Jotham on the 20th of October. Directly Mr. Carden saw her abdomen, he noticed a remarkable change since his last visit ten days before. No outline of any tumour could be felt ; on the contrary, the abdomen was uniformly distended as if by ascitic fluid. Yet there was no fluctuation, only the elastic impulse of size or jelly. On deep pressure it seemed as if this matter could be displaced with a sort of crepitus or fremitus, and a more solid mass reached below

and behind. If it had not been for the very clear history given by Mr. Carden and Mr. Jotham, I should have been in great doubt as to the real nature of the disease, and vaginal examination threw no further light upon it than to show that the pelvis was free from any tumour, and the uterus central and moveable. But inquiry led to pretty accurate accounts of two spontaneous ruptures of cysts, one eight days and the other thirty-six hours before my visit. There were some signs of commencing peritonitis, and, although some uterine discharge was present, we determined to remove the tumour without delay.

Chloroform having been administered by Dr. Inglis of Worcester, and being assisted most kindly and ably by Messrs. Carden and Jotham, and by Mr. Brown of Stourport, I opened the peritoneum by an incision five inches long, midway between the umbilicus and pubes, and saw at once that a large tumour had given way in several places, and that the peritoneal cavity was filled by a mass of clear amber-coloured matter, extremely tenacious, and exactly like calvesfoot jelly. Numerous openings were seen in the very thin walls of the tumour through which this matter was exuding. After separating a few slight adhesions anteriorly, and breaking up the tumour as it was pressed forward by Mr. Carden, it was all removed without any enlargement of the opening, and a pedicle of the breadth of three fingers was temporarily secured by a clamp three or four inches from the right side of the uterus. The tumour was then cut away, and the whole of the ovarian matter which had escaped into the peritoneal cavity was carefully sponged away. There was scarcely any bleeding, but a small artery near the peritoneum was tied on each side near the middle of the incision. The wound was closed as usual by silk sutures, and the clamp was removed, after transfixing the pedicle, tying it in two portions, and as an additional security surrounding it by the chain of an *écraseur*. The stump was effectually prevented from sinking into the abdomen by securing the ligatures to a perforated cylinder of boxwood. All this was done because the pedicle seemed to be so friable that there was some risk of its giving way, separating behind the clamp, and so leading to secondary haemorrhage. The jelly-like mass removed weighed twenty-six pounds.

The patient recovered well from the chloroform, and reaction soon set in with a good deal of pain. Mr. Jotham assiduously

carried on the after-treatment as had been agreed upon, and the pain was moderated though never entirely checked by opium. In the first forty-eight hours 280 drops of laudanum were given in divided doses by enema. The uterine discharge continued freely for twenty-four hours after operation, and then ceased entirely. The chain and ligature separated from the pedicle, and were found loose in the dressing on the third day with a small portion of pedicle enclosed, but there was no bleeding. Mr. Jotham removed two of the stitches forty-eight hours after operation. At this time tympanites was becoming considerable, especially at the epigastrium, and no flatus passed *per anum* until the fourth day. On the 23rd, three days after operation, a gush of reddish serum escaped beside the pedicle, but it gave no relief. There was no vomiting till the fourth day. On this day Mr. Carden saw her. He wrote: 'The abdomen was enormously distended, the ligatures scarcely holding the wound together. A ragged sloughy shred of pedicle lay at the bottom of the incision. Vomiting and hiccup, tenderness of the abdomen; pulse only 100, urine scanty. The vagina was cool, moist, and natural; the uterus drawn rather high.' On the fifth and sixth days there was some improvement; the sickness was relieved and the abdomen was less tumid and tender. On the seventh morning she seemed better; there was no vomiting and the appetite was good; she was cheerful and hopeful, with a pulse at 96, and the abdomen was less tender though still tympanitic. Enemas had been given, but there had been no action of the bowels. Vomiting recurred in the afternoon, and after a severe straining about a quart of clear pale serum gushed from beside the remains of the pedicle. After this all the bad symptoms returned and increased; she gradually sank, and died on the eleventh day.

Unfortunately no post-mortem examination was permitted; but it seems pretty certain that the peritonitis which had been set up before the operation was never subdued, and latterly the ordinary effects of peritonitis were complicated by septicaemia, some of the foetid fluid from the surface of the pedicle in all probability having been absorbed. Although the disappointment was great, we all felt that the patient must have died very soon if nothing had been done by surgery, and that our effort to save life was the only one which could have been made with any hope of success.

Dr. Ritchie examined a portion of the tumour, and reported as follows:—

'The tumour was almost identical in structure with the one described at page 246. It was a typical specimen of pseudo-colloid of the ovary. It was a network of fibrous tissue, whose meshes were infiltrated with whitish jelly. The fibrous bands were continuous with the tunica albuginea; the meshes were elongated towards the centre of the tumour. They were of various sizes, some larger than two closed fists. With the exception of the little cloud of granules, an appearance which was not observed in this instance, the description given (at pages 246 and 247) of the tumour in Case XCVII. agrees in every particular with that of the tumour removed in this case.'

CASE CVIII.

Ovarian Tumour; Once Tapped; Ovariotomy; Recovery.

AN unmarried lady, 42 years of age, came from Yorkshire, by the advice of Dr. Ramsbotham, to consult me as to the probable success of ovariotomy; and I saw her on the 14th October 1864. I was informed that she was born in Yorkshire, that her mother died at the age of forty-eight of chest disease, and that her maternal aunt also died of chest and spinal disease. The other blood relatives were healthy. She had menstruated for the first time at the age of thirteen, and while still young habitually lost a large quantity of blood at her periods. As she advanced in life, however, the periodical discharge diminished gradually in quantity, and finally ceased in December 1863.

No symptoms of ovarian disease were observed until the summer of 1862, when the abdomen began to swell. In October 'the body was decidedly hardening, but there was no pain.' In February 1863 Dr. Wood of Wakefield gave the diagnosis of ovarian dropsy. In the autumn of 1863 the abdominal swelling subsided very considerably after the use of vapour baths, but a hard lump reaching as high as the umbilicus still remained. Since February 1864 the abdominal distension had been on the increase. The following are the measurements at the umbilical level at different periods:—April 9, 1863, 29 inches; October 1, 1863, 35 $\frac{3}{4}$ inches;

December 31, 1863, $30\frac{1}{2}$ inches; May 10, 1864, 32 inches; July 1, 1864, $33\frac{1}{4}$ inches; August 1, 1864, $34\frac{1}{4}$ inches; October 14, 1864, $35\frac{1}{2}$ inches. Before the disease was observed the patient weighed seven stone; in October 1864 her weight was eight stone four pounds. She had at first tried treatment with iodine internally, but latterly had been treated homœopathically. Her complexion was dark, and had that peculiar pinched expression of countenance which has been described as the *facies uterina*, but which would probably be better named *facies ovariana*.



The drawing, which is an exact copy of a photographic portrait (by Dr. Wright) of another patient, gives a very correct idea of this peculiar physiognomy. The emaciation, the prominent or almost uncovered muscles and bones, the expression of anxiety and suffering, the furrowed forehead (not sufficiently marked in the drawing), the sunken eyes, the open sharply-defined nostrils, the long compressed lips, the depressed angles of the mouth, and the deep wrinkles curving round these angles, form together a face which is strikingly characteristic.

In spite of the increase in gross weight emaciation was very considerable. The appetite remained tolerably good, the tongue

was clean, the bowels regular. There was occasional haemorrhoidal bleeding. The nervous system was not much implicated ; there was slight cough with trifling expectoration ; the pulse was 120, the heart's tones normal. On examining the chest, while the patient was seated, the whole of the right thorax appeared slightly duller on percussion than the left. When she lay down, however, this difference in percussion note was imperceptible, and it evidently was due to the temporary compression of the lung which the tumour produced while the patient sat. The vesicular murmur was distinct, but there was a suspicion of fine crepitus at the apex of each lung. The urine was rather diminished in quantity ; it contained uretes but no albumen. The abdomen was occupied by a large indistinctly-fluctuating tumour, which inferiorly occupied the whole of the hypogastrium, but superiorly extended higher on the right side than on the left, burrowing under the right false-ribs, while leaving the left hypochondrium free. There was no crepitus nor tenderness : one or two superficial veins were dilated, the integuments were stretched, and the parietes of the abdomen (which were thin) could not be seen to move upon the tumour. The girth at the umbilical level was $35\frac{1}{2}$ inches, the distance from the umbilicus to the ensiform cartilage 9 inches, to the symphysis pubis $8\frac{3}{4}$ inches, to the right iliac spine 9 inches, and to the left also 9 inches. No tumour could be detected *per vaginam*. The uterus was central, but its mobility was diminished. My diagnosis was 'semi-solid ovarian tumour,' and the following is a copy of a letter which I sent to Dr. Ramsbotham :—

'October 17, 1864.—I saw Miss W. this morning, and told her that I would write to you and ask you to consider the same questions which she and her sisters will also think over for two or three days.

'1. Believing that she has a compound cyst of the right ovary, with rather extensive adhesions to the abdominal wall, I should say that the case is a fair average one for the operation,—not one of the most nor one of the least favourable cases which are met with—and that the chances would be about two to one (not more) in her favour.

'2. If left alone, or with such palliation as tapping can afford, she is not likely to live (at the utmost) more than two years,

and it is much more probable that she would not live one year.

'3. At forty-two her expectation of life, according to insurance tables, is twenty-six years. By electing ovariotomy she risks two years, with two chances to one in favour of gaining twenty-six years; while the two years would be certainly years of suffering, and the twenty-six probably years of comfort.

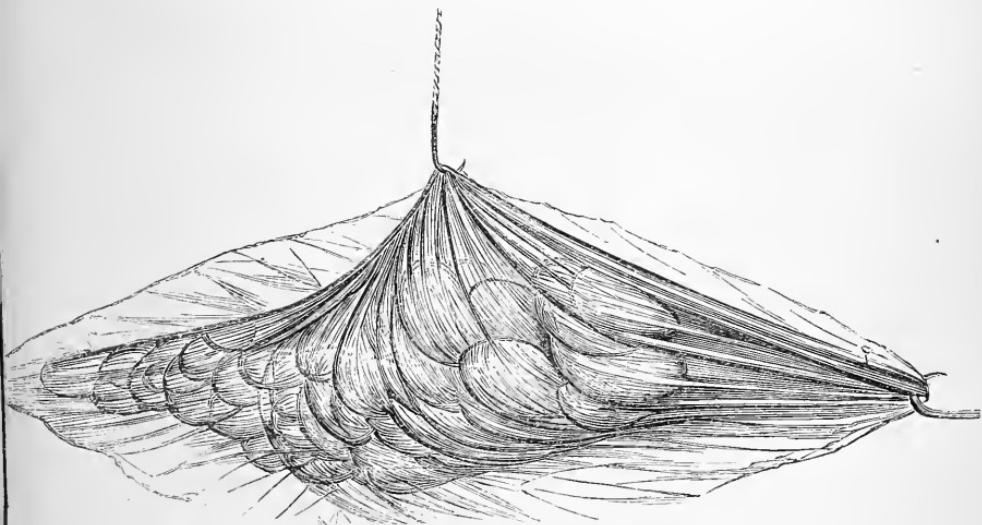
'4. But this question need not be decided immediately; one or two tappings would probably not add to the risk. Temporary relief might be gained, diagnosis verified, and time allowed for full consideration. On the other hand, there is some risk even in tapping, and unexpected changes might follow it. I tell her it is one of those cases in which a surgeon cannot give very positive advice. The patient herself, with the elements of the calculation before her, must assist her advisers by her own feelings.'

On October 24 I tapped; only a few ounces of yellow mucoid fluid came away. I secured the puncture with a harelip pin. On the 26th I removed the pin. On the 28th, taking into consideration the fact that the tumour could not be lessened by tapping, I told the patient that I did not think the hopes of recovery after ovariotomy were more than equal to the fear that she would not recover. But on the 31st she came to the decision of submitting to the operation, which I performed on the 1st of November, with the assistance of Drs. Beverley Cole of San Francisco, Greenhalgh, Ritchie, and Wright: Dr. Parson gave chloroform. The incision in the abdominal parietes was gradually extended until it reached from one inch above the umbilicus to two inches above the symphysis pubis. The tumour was found to be extensively adherent anteriorly, especially all round the umbilicus; there were no adhesions below nor behind. A large trochar was plunged into the tumour; but, as had been expected, no fluid could be withdrawn in that way. It was on this account that the incision was lengthened sufficiently to allow the tumour to be turned out entire. The pedicle sprang from the right side of the womb; it was fully three inches long, and was secured by a medium-sized clamp, and brought outside without causing any pull upon the uterus. There was a good deal of tendency to general oozing. Two vessels in the edge of the anterior adhesions were tied, the ligatures being brought out

alongside the clamp ; other vessels were compressed or twisted. The opposite ovary was found to be healthy or atrophied, and the wound was closed with one superficial and seven deep sutures of silk. A pad of lint, plaster, cotton, and a bandage were applied as usual. There was nothing unusual about the operation except the impossibility of diminishing the size of the tumour by tapping. The previous diagnosis was completely verified. The patient rallied well from the shock of the operation, and as she complained of no pain, no opium was administered ; in spite of this she was drowsy for the first twenty-four hours. On the third day I changed the straps, and on the fourth removed the sutures, leaving the clamp to separate spontaneously, which it did on the eighteenth day. After this convalescence was rapidly established.

Dr. Ritchie's report on the tumour is as follows :—

'The tumour removed in this case was a semi-solid mass 28lbs. in weight. It was semi-solid not in the sense that it was made up of



matter of the consistence of jelly, but that it was composed of a large number of small vesicles with watery contents. It was fourteen inches long, about nine broad, and nine thick. Its anterior surface was covered with shreds of false membranes, while its posterior surface was comparatively smooth. The remains of the pedicle were found to the right

and inferiorly. The structure of the tumour was uniform. It consisted of an investing fibrous membrane about a quarter of an inch thick, from the internal surface of which sprang innumerable trabeculae, which, by their frequent crossing and recrossing, enclosed spaces filled with clear serous fluid. None of the spaces enclosed were larger than a small apple, and none of the trabeculae exceeded one-eighth of an inch in thickness. Most of the spaces were globular, and on account of the thinness of their parietes, and the clearness of their contents, were more or less translucent. Between the globular spaces were enclosed others less regular in shape. In the centre of the tumour there were several spaces whose contents were turbid; the walls dividing those spaces from each other showed traces of inflammation, and in one case had been eaten through by ulceration. A clearer idea of the structure may be obtained with the help of the engraving on the other side, taken from a drawing of a small portion of the tumour. The letter (*a*) represents the tunica albuginea, which is seen from the inside. The trabeculae (*b b*) spring from this tunic, and enclose bladder-like spaces. The tumour is remarkable chiefly because its loculi are so similar to each other in size and general appearance. It may be looked upon as a normal ovary dissected by hydro-tomy. The slight evidences of inflammation discovered in its interior are evidently of secondary importance.'

CASE CIX.

Non-adherent Cyst; Never Tapped; Ovariotomy; Recovery.

A MARRIED woman, 59 years of age, was sent to me in June 1864 by Dr. Halley. She was suffering from enlargement of the abdomen and metrorrhagia. She had had four children and one miscarriage, the last pregnancy having occurred nineteen years before. Nine years after the birth of the last child, that is to say when the patient was forty-nine years of age, the catamenia ceased. For the next eight years there was no attempt at menstruation, but two years ago bleeding recommenced. At first it appeared at intervals, but since the beginning of 1864 it had been almost constant. It was in the beginning of 1863, six months after the supposed reappearance of the menses, that the abdomen was first observed to be

increasing in size. At first the increase was very gradual, but since April 1864 it was much more rapid; and when the patient consulted me her girth at the umbilical level was $40\frac{1}{2}$ inches, the distance from the umbilicus to the symphysis pubis $9\frac{1}{2}$ inches, to the ensiform cartilage $9\frac{1}{2}$ inches, to the right iliac spine $11\frac{1}{2}$ inches, and to the left iliac spine 12 inches.

The patient had never discovered any distinct tumour, but Dr. Halley had detected a multilocular ovarian cyst. This tumour, in which fluctuation could be detected, extended upwards several inches above the umbilicus; its margin reached the false-ribs on both sides, but it was rather more developed to the left than to the right of the median line, leaving the right iliac region almost free. Just above and rather to the right of the symphysis was a projection of the tumour which, from its shape and feeling, might very well have been the uterus slightly hypertrophied.

There was a circular contraction of the vagina near its fundus, probably due to old inflammation. The uterus was very high, and the os consequently nearly out of reach. The patient's health had given way considerably under the continued haemorrhage. There was no pain, but a feeling of numbness in the right thigh had been present for twelve months. The diagnosis was 'multilocular ovarian cyst free from adhesions.'

The patient was advised to go into the country, and when her general health improved and the tumour enlarged to come into the Samaritan Hospital for ovariotomy. She was admitted in October, and the metrorrhagia was found to depend upon the presence of a number of small vesicular polypi in the canal of the cervix uteri. I determined, however, not to interfere with these polypi before performing ovariotomy, as the sudden suppression of a discharge which had become habitual and the removal of the tumour might together produce too great an alteration in the circulation.

On the 2nd November 1864 I performed ovariotomy, with the assistance of Dr. Hall Davis, Dr. Halley, Dr. Griffith of Peckham, Dr. Ritchie, and Dr. Wright, chloroform being administered by Dr. Parson. There were no adhesions; a large cyst was tapped, and the tumour easily turned out. The pedicle was of the breadth of two fingers, rather short, and was therefore secured close to the neck of the cyst with a middle-sized clamp. There was

a little superficial oozing, and one bleeding point had to be tied. The opposite ovary was healthy or atrophied. The wound was closed and the edges brought together by several deep and superficial sutures of silk; one of the former was required below the clamp. The operation was only remarkable for its extreme simplicity. The fluid removed during the operation amounted to eighteen pints; it was dark and mucoid.

The patient went on remarkably well after the operation. The sutures were removed on the fourth day, the wound being united throughout. The clamp was left till the tenth day, when it separated spontaneously. She was convalescent a fortnight after operation, and left the hospital in very good health on the 28th of November.

Dr. Ritchie's report on the tumour is as follows :--

'The tumour is a good example of what is probably the commonest of all forms of compound ovarian cysts. It is made up of a large cyst about eight inches in diameter, to which is attached a cake six inches by four. This cake represents the ovary, being composed of a number of vesicles of varying sizes, filled for the most part with dark mucoid fluid, and separated from each other by layers of fibrous tissue. This variety of tumour has been so frequently described that to enter into details would only be tiresome repetition. There was no pedicle attached to the tumour, but the place to which it had formerly been attached was marked by a space, four inches long and about half an inch broad, destitute of peritoneum.'

CASE CX.

Multiple Ovarian Cyst; Once Tapped; Ovariotomy; Both Ovaries Removed; Recovery.

ON the 22nd of October 1864, I met Dr. Gueneau de Mussy in consultation on the case of a married lady, 49 years of age, who was suffering from ovarian dropsy. She had had three children, the youngest of whom was thirteen years old, and several miscarriages. She was a brunette, and was somewhat emaciated. Her digestive and nervous systems were in good order, and her chest was sound. The girth at the um-

bilical level was 53 inches, the distance from the umbilicus to the pubic symphysis $6\frac{1}{2}$ inches, to the ensiform cartilage $16\frac{1}{2}$ inches, and to either ilium 16 inches. A fluctuating tumour filled the abdomen, reaching 13 inches above the umbilical level; it was not tender on pressure. Crepitus could be heard and felt in the hypogastrium. The catamenia had been scanty and irregular since 1860, when they had been suddenly suppressed, and for three months nothing was seen of them. This led to a suspicion of pregnancy; an examination was made, and then the ovarian disease was discovered by Dr. de Mussy. At that time the tumour was about the size of an adult head, the uterus being small and moveable. No treatment further than support by bandaging was adopted.

The case being evidently one of multilocular ovarian cyst, and the necessity for relief urgent, I tapped, with the concurrence of Dr. de Mussy, and drew off a pailful of dark fluid, which was examined by Dr. de Mussy. He reported that it was scarcely, if at all, viscid; that it contained detritus of blood-corpuscles, fatty granules, large spherical granular cells, many plates of cholesterine, and the ordinary compound granular cells.

Symptoms of rapid refilling of the cyst led me in a few days, in consultation with Dr. de Mussy, to recommend immediate ovariotomy; and I performed the operation on the 3rd of November, with the assistance of Drs. de Mussy, Ritchie, and Wright: chloroform was administered by Mr. Clover. The incision extended from two inches above the umbilicus to five inches below it. There was no adhesion to the abdominal wall, but the omentum was strongly attached to the upper part of the cyst, and interlaced with mesentery from below. I tapped several large cysts successively, got the tumour out, and then found that there was no pedicle. It appeared that the tumour derived its vascular supply solely from the omental and mesenteric vessels. The fundus of the uterus felt rough, but there was no tear nor fracture at the point where the Fallopian tube must have separated, nor was there any bleeding; there was pretty free haemorrhage from the omental vessels. I cut away some shreds of omentum, and tied at least twelve vessels with very fine silk; cutting off both ends of the ligature close, and returning the omentum with the tied vessels into the abdomen. On

feeling for the left ovary I found it enlarged to the size of a pear: I transfixated its attachment, tied each half separately, and cut away the tumour. Some bleeding followed, and there was a little difficulty in finding the bleeding point; but it was secured and tied with twine, the ends being left hanging out at the lowest point of the wound. The wound was closed with nine deep and several superficial sutures of silk. The operation was peculiar on account of—

1. The extent of omental adhesion, and the number of vessels tied.
2. The absence of pedicle to the right ovary.
3. The removal of the second ovary, and the bleeding which followed it. Probably the ovary was cut away too close to the ligature, and the stump retracted.

The patient only had one opiate after the operation, and went on perfectly well. There was some, but not much, discharge beside the track of the ligatures, one of which came away on the eighth day. The sutures were removed at intervals on the third, fourth, and fifth days. On the fifteenth and sixteenth days the patient had slight shiverings, and loss of appetite. These symptoms were to be explained by the presence of a small suppurating point at one of the sutures. On the seventeenth day she was moved into another room. On the eighteenth day I found her pulse extremely feeble, and ordered free stimulation. At night Dr. de Mussy was seriously anxious about the feebleness and rapidity of the pulse, and the patient said she felt very ill; free perspiration came on, and continued till next day. On the twentieth day the bowels acted five times after some tartrate of soda. Nothing wrong was to be detected by a vaginal examination. After this the patient rapidly gained strength: the small superficial abscess had closed before the end of November, and convalescence was fully established, although it was not till the twenty-eighth day that one of two remaining ligatures on the vessels of the left ovary came away.

Dr. Ritchie's report on both tumours is as follows: that of the right side is described as A, the small one on the left as B:—

'(A) A large cystic tumour, many of whose loculi had been cut into and emptied, but which at the time of examination weighed 16lbs. The tumour was very irregular in shape, consisting of a spherical central

portion, to the sides of which a number of lobes were attached. Some of the lobes were of the size of an infant's head, and were separated from each other by deep sulci. Adhering both to the lobes and to the central portion of the tumour were a number of small lobules from the size of a pea to that of a fist, some of which were sessile, while others were provided with pedicles of varying length. All these lobes and those lobules were, like the central portion, made up of cysts—that is to say, of compartments separated from each other and containing fluids of varying densities, colour, and other physical qualities. The surface of the tumour, especially that portion of it which had been anterior while *in situ*, was covered by adhesions. These adhesions were both strong and vascular, and they evidently consisted of a double layer of peritoneum. No trace of a Fallopian tube nor, indeed, of any distinct pedicle was to be found, but the mass of adhering false membranes and omentum was so excessive that it might have been present without being observed. Structurally considered, the tumour was a typical specimen of what has been described under the name of "proliferous cyst;" and however much we may regard the theory of the formation of these cysts as incorrect, still it must be admitted that, *prima facie*, nothing looks more probable than propagation by endogenous growth.

' If we took any one of the lobules, or indeed any part of the tumour, we found a cyst. Probably the wall of that cyst was capable of being split into a number of layers; we opened the cyst, and allowed a quantity of dark-coloured fluid to escape. We found that the cyst was lined with tesselated epithelium, and that there projected into its cavity one or more secondary cysts. We opened them, discharged another kind of fluid, again found that the epithelium was tesselated, and discovered in their walls a third set of cysts. We opened one, and found yet a fourth cyst; and on evacuating this fourth and cutting through its further wall, we found we had extended our incision right through the lobule, and had emerged at the opposite side. On examining the walls of some of the cysts they were seen to bear the traces of previously-existing follicles. Either there was a little fibrous network, or else a small cul-de-sac like the end of a glove-finger. Some of these cul-de-sacs contained a dirty yellow-ochre body which, under the microscope, was found to consist of fibrine.

' A large number of the smaller cysts, with transparent contents, were searched for the ovule. None was found; but in each fluid examined were a number of oval nucleated cells about $\frac{1}{60}$ of a line in their long diameter, some of which were undergoing fatty degeneration. In some of the larger loculi the lining-membrane projected into little papillæ, giving the surface a granular appearance. Over these papillæ the epithelium appeared to be columnar.

'(B) The tumour formed by the left ovary weighed four ounces, and

was oval in shape. Its long diameter was its perpendicular one, and its broadest end its inferior extremity.

It may, for convenience, be described as having an apex, a base, a right and left side, and an anterior and posterior surface. To the left side of the tumour, and considerably nearer its base than its apex, were seen the remains of the pedicle, a mere roughened spot an inch in diameter, destitute of peritoneum. Here and there over both surfaces of the tumour were seen thin shreds of lymph, but where these were absent the white shining fibrous coat of the ovary shone through its serous investment.

'The upper half of the tumour consisted of a unilocular cyst filled with a mucilaginous liquid. The wall of the cyst averaged one-eighth of an inch in thickness. It was lined with tesselated epithelium, but the general smoothness of its lining was frequently interrupted by patches of fibrinous deposit and by hard granulations, which to the naked eye suggested grains of fine bran. On examining those granulations with a low magnifying power they were seen to be dendritic growths in miniature. At one point the cyst-wall was of twice its average thickness; here there projected into the cavity of the cyst a dendritic growth about the size of a split pea. A section of the wall at this point was examined with a high power, but nothing was made out except fibrous tissue epithelialized. The whole thickness of the wall was due to fibrous tissue, which appeared least dense in its centre, and more closely interwoven where it touched upon the peritoneum on the one side and upon the epithelium on the other.

'At the base of the tumour was a hard oval body as large as a boy's marble. The outside of this body was corrugated, being separated by deep fissures into distinct lobes, some of which were smooth, while others appeared to be composed of a number of granules smaller than a pin's head. A section of the hard body showed it to be composed of bundles of fibres, some of them one-sixth of an inch broad, running in different directions, and at very rare intervals enclosing small spaces. From the middle of the superior surface of the hard body sprang a fibrous pillar about one-quarter of an inch in diameter and one-third of an inch in length. On either side of this pillar was a cyst—the cyst on the posterior side being as large as a cherry, that on the anterior side double the size. The structure of these two cysts was identical. The anterior one was originally filled with a gummy fluid. It was nearly spherical in shape. Its anterior and antero-lateral walls were one-eighth of an inch thick, and formed of a fibrous layer covered with peritoneum, beneath which was a serous-looking *membrana propria*, which could be separated entire with ease; this *membrana propria* was lined with epithelium and studded with dendritic growths. The roof of the cyst was formed, independently of the *membrana propria* which could

be traced all round, by the floor of the large cyst already described as forming the upper half of the tumour. Part of the floor of the cyst was formed by the upper surface of the hard body, and its posterior wall was formed by the fibrous pillar which was sent upwards from that hard body. The three cysts described and the hard body formed the great bulk of the tumour. In the neighbourhood of the hard body were several small cysts, some few of which had translucent walls, while the majority were included within parietes of considerable thickness. The great majority of these cysts had their inner wall studded with dendritic growths; in some of them small masses of that growth lay free in their cavity, having evidently become detached. One little cyst no larger than a pea had transparent walls and clear contents. There were no dendritic growths in it; on the contrary, it was lined with a layer of cells identical with those of the *membrana granulosa*. No ovum was, however, found in it.'

In an interesting letter which Dr. de Mussy sent to me, after looking over the above report of this case, he first alludes to the remarkable manner in which the omentum 'enveloped, held up, or almost carried the tumour.' He then says:—

' You have not mentioned a fact which has always appeared to me to be very remarkable, although it is very common: I mean the very great difference in the liquids contained in the cysts. One contained a dark-brown fluid exactly like that which was evacuated at the tapping; another a viscid fluid of oleaginous consistence; a third a fluid almost colourless, perfectly transparent, and as limpid as water. Between these three varieties there were numerous gradations. Each cyst had its own particular liquid. These differences, which are sometimes even greater than in this case, strengthen me in an opinion which I formed long ago upon the formation of the cysts called multilocular or endogenous—an opinion supported by many other arguments. I believe that each cyst is independent of its neighbour, and is in all probability formed by a Graafian vesicle; that the middle coat of each cyst consists of the stroma of the ovary flattened out, but containing the vesicles which Dr. Ritchie of Glasgow has demonstrated to exist in infinite numbers. As the morbid disposition is developed, the number of the vesicles affected increases, and they become developed in the walls of the cysts first formed, or in those of contiguous cysts, projecting into the cavities of those already formed. This mode of formation also accounts for the great difference of thickness in the cyst-walls. In the parts where the stroma is, so to speak, "used up" the wall is very thin. There the original coat has favoured the evolution of many cysts placed one over the other. In other parts there has been

no cystic development, and the wall remains thick. In a word, my opinion is that the so-called multilocular cysts are multiple cysts closely pressed together, independent of each other, each affected separately, and thus each may furnish a different product, solid or liquid.

CASE CXI.

Multiple Ovarian Cyst; Three Tappings; Hæmorrhage Within the Cyst; Ovariotomy; Suspicious Growth around Cicatrix during convalescence.

MR. SQUARE of Plymouth wrote to me on the 2nd of November 1864, to say that an unmarried lady under his care was suffering from ovarian dropsy, and that her friends wished to know if I could see her at Plymouth and operate upon her, if I concurred with him in the opinion that ovariotomy was necessary and offered a fair prospect of success. Mr. Square added: 'She is 45 years of age, and menstruates regularly. She consulted Dr. R. Lee in June 1862, came under my care in 1863, and I performed the first tapping in October of that year, removing two-and-a-half gallons of liquid, which was transparent and straw-coloured, like the fluid of ascites. One cyst apparently was completely emptied; its walls could not be distinguished after the tapping. Her health remained pretty good, and I tapped her again between six and seven weeks ago, on Sept. 10th. The liquid was then rather thicker, of a light portwine tint, and the quantity three gallons; and no solid mass nor cyst could be felt after the tapping. But she filled very rapidly; during the last three weeks she has emaciated a good deal, and has looked increasingly haggard. Within the last week she has had much dyspepsia, nausea, want of appetite, and pain (apparently from distension) in the iliac and pubic regions. To-day I tapped her again. There were 13 quarts of liquid, of a dark-brownish red colour, containing a large quantity of blood, thus explaining her rapid decadence.' Mr. Square wrote again on the 5th of November: 'The point now to arrange is the time when the operation should be done. Hitherto she has menstruated with tolerable regularity—about once in three weeks, or rather more. She ceased to menstruate on October 28. The interval between the two last tappings was

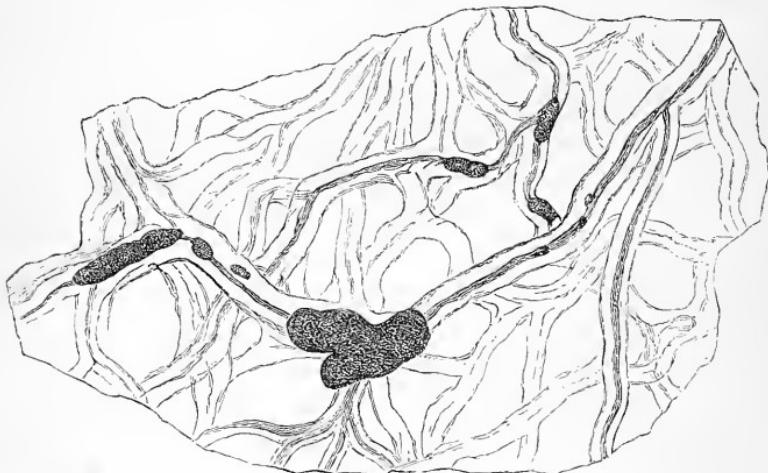
about seven weeks. She is now eating pretty well, digestion fairly good, is in good spirits; pulse rather weak, about 85. Is it well to allow the next menstrual period to pass over, and if not how soon is it advisable to operate?

In reply to this question I expressed my fears, as there was so much blood in the fluid removed at the last tapping, that the cyst was likely to refill rapidly and to exhaust the patient, and therefore that it would be unsafe to wait for another menstrual period, and very advisable to operate a clear week before the commencement of the period. I accordingly operated at Plymouth on November 12, with the very kind and efficient assistance of Messrs. Square and Whipple; Dr. Yonge also being present, and Mr. Rendle administering chloroform. By an incision, about five inches long, extending down from an inch below the umbilicus, I exposed a cyst unattached except on a spot about the size of the palm of the hand above and below the umbilicus. Mr. Square and I were both prepared for this patch of adhesion from our examination of the patient before the operation. On tapping the cyst, about ten pints of fluid passed through the tube of the syphon-trochar, which then became blocked up. Withdrawing part of the cyst I laid it open, and turned out several large masses of clot and fibrine. The rest of the cyst was then easily drawn out; but it was not very clear at first which ovary was diseased, for both Fallopian tubes were closely connected with the cyst. The attachment of the left tube, however, was a mere adhesion of the thickened fimbriæ to the cyst-wall. This was easily separated, a vessel which bled rather freely was tied, and the pedicle on the right side was secured about two inches from the uterus with a small clamp, which was kept outside, although the pull on the broad ligament was rather considerable. The wound was closed by silk sutures in the usual manner.

The following report on the cyst is by Dr. Ritchie:—

‘ This was a large empty cyst, which had been incised, and punctured with a large trochar. The walls of the cyst were about one-eighth of an inch in thickness, but this thickness was further increased at intervals, the increase being most marked at one point, where the sensation given to the finger was that of the presence of a fibrous tumour in the walls of the cyst. This tumour was 8 inches long, 6 inches broad, and from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches deep. The external covering of the cyst was peritoneal. It had a few

scattered marks of old inflammation, and at one point there adhered to it what appeared to be an old clot. Over the point where the tumour was to be felt, the peritoneal coat became uneven from the presence of little rounded projections, which varied in size from that of a barleycorn to that of a large bean. Those projections were not translucent, but, on the contrary, their contents were evidently solid. The lining-membrane of the cyst had a mucoid appearance, and was excessively vascular. Large veins ran in every direction, and several of the largest of them were more or less corroded. Some of the corrosions did not extend through all the coats of the vessel, and these appeared under a magnifier as small ulcers with ragged edges. Where the ulcer had eaten through-and-through the vessel blood had been effused and a clot had formed. The accompanying engraving represents some of the vessels.



'Projecting into the large cyst and scattered over its circumference were from 20 to 30 smaller cysts; some of these were quite smooth, and appeared to be identical with those which were mentioned as projecting from the external surface. Others, however, were extremely uneven, and assumed a fungoid appearance. This was due to the presence of altered clot, for when that was turned out the smooth wall of the cyst was found beyond. It appeared as if the anterior wall of the cyst had corroded, while the clot strongly adherent to the posterior wall had projected into the larger cavity. Some of the smaller and smoother projections, when examined structurally, had a yellow cheesy-like aspect. This matter, microscopically, was found to be made up of a number of round oval cells, varying from $\frac{1}{100}$ to $\frac{1}{50}$ of a line in diameter. The cells were full of granular contents, and were all nucleated, many of the oval cells indeed containing two nuclei. Besides

these cells one or two other structures were seen, having the appearance of cells. They were about one-tenth of a line in diameter, and within them were contained other cells very similar to those which have just been described. It appeared as if they were parent cells propagating by endogenous growth.

' Between the internal mucoid lining of the cyst and the peritoneal layer was a layer of fibrous tissue. At the thinnest parts of the wall it seemed to be simple fibrous tissue, disposed in layers, with slender connective filaments and occasional vessels. At the points where the little projections occurred the fibrous layer became thicker. It reached one-fourth to one-third of an inch in thickness, and it had then all the characteristic appearances of ovarian tissue, the projection itself being evidently a vesicle springing from the tissue, and filled with fibrine in some stage of degeneration. On making a section through the thickest part of the tumour which has been described as growing in the walls of the sac, it was found that that tumour was only an exaggeration and agglomeration of the little projections. It consisted of ovarian tissue, many of whose meshes were filled with the lardaceous deposit already mentioned. This lardaceous deposit was in some loculi undergoing fatty degeneration, in others it was rapidly becoming purulent. In the loculi which were nearest the large sac the internal wall had given way, and the contained clot projected like a fungoid mass, which was easily broken down with the finger, and resolved itself into shreds and granules.

' To the outer portion of the cyst, and in the immediate neighbourhood of the hard tumour, was found the Fallopian tube, with its pavillion. Between the folds of peritoneum which connected this with the tumour appeared a little clear vesicle, one-fourth of an inch in diameter. It moved freely between the folds, and having no apparent connections could, by careful manipulation, be pressed from one part by the broad ligament to another. On cutting one of the layers the little cyst could be squeezed out; but as it then appeared to be connected in some way with the peritoneum, the scissors were used to separate it. It was then put on a glass slide, and, after a little dissection under water, it was examined with a view to determine of what it really consisted. The Wolffian body surrounded it, and was closely attached to it; but the most careful dissection failed to show that it was continuous with it, or that the cyst was, as might have been supposed, a dilatation of one of the tubules of that body. The vessels of the little cyst were beautifully injected. They were arranged in a very peculiar manner. There was a point in the cyst-wall about twice the size of a pin's head; it was of a yellowish colour, and was not translucent, like the rest of the cyst. On touching it with a needle it gave a sensation of much greater resistance than did any other part of the cyst. It was evident that the cyst-wall was thickened at that point. The point

appeared to be totally destitute of blood-vessels; not a solitary twig could be traced into it, but all around it vessels were plentiful. Their arrangement was very striking. They formed a tolerably regular oval, and from this oval a number of small branches spread outwards, and lost themselves on the walls of the cyst. The space included by the oval appeared to be totally destitute of vessels. An attempt was made to preserve the little cyst in *vacuo*, but in twenty-four hours the colouring matter had left the vessels, which were no longer to be distinguished. It is difficult to give an opinion as to what the little cyst in the broad ligament really was. I failed to make out its connection with the Wolffian body, but the tubules of that body are so very delicate that it is possible that a slip of the needle may have destroyed a really existing connection. The arrangement of the blood-vessels and the little isolated thickening of the cyst-wall tended, on the contrary, to sustain the supposition that the vesicle was an ovum in which development had made considerable progress.'

Dr. Ritchie was at first disposed to look upon the large tumour as an instance of true or primary apoplexy of the ovary. I had been much struck with the large quantity of blood in the largest cyst, and Dr. Ritchie's examination showed that the smaller loculi were similarly filled with blood; and he suggested that apoplexy might have been the primary disease, arguing that the disease was no more ovarian, than cerebral apoplexy is a primary disease of the brain. In the ovary, congestion is a normal and periodically recurring condition—a condition very likely to lead to disease of blood-vessels. But from whatever cause the nutrition of the vessels might be impaired, their walls would become unable to withstand the pressure of the blood, and would give way at their weakest point, or at the point where the pressure on them was greatest. My own impression was that the apoplexy was secondary; that an ovarian cyst was formed in the usual way, and at first contained ordinary ovarian fluid, but that latterly blood had been poured into its various loculi as a simple result of obstruction to the return of blood, either by a twist of the pedicle, or by a clot blocking up one of the principal veins. The haemorrhage was *venous*. The drawing shows how the *veins* had given way. There was no appearance of atheromatous or other degeneration of the *arteries* in the cyst or in other parts of the body. And although I had not noticed any unusual twist in the pedicle at the time of the operation, I think this was because I was

chiefly occupied in making out the connections between the cyst and the uterus ; and I afterwards remembered that the left tube was attached to the back part of the cyst, and the right tube to the front part of it and rather over to the left side, which proves that a considerable rotation of the cyst had taken place ; and this could hardly occur without some twist of the pedicle, and more or less obstruction of the veins.

With regard to the progress of the case after operation, I can only say from my own observation that the patient soon rallied and complained of a good deal of pain, especially in the loins. This was relieved by opiate enemas, and I left her three hours after operation in a very satisfactory state. Mr. Square then took charge, and I am indebted to him for the information that she had no really bad symptom. The wound united well ; there was scarcely any tympanites ; the pulse was about 80, and when pain came on in the thigh, as it often did, it was controlled by opiate enemas. On the tenth day, the clamp still remaining attached, and a slight discharge continuing around it, there was some restlessness and feverishness, and the pulse rose to 100, with some pain and hardness about the wound, which at first appeared to be due to a small superficial abscess, but towards the end of November fears began to be entertained that it might be a growth of soft cancer, and cells were found in some matter removed from the centre of the cicatrix exactly resembling those described by Dr. Ritchie as found within the tumour. During the first week in December the general condition was unsatisfactory, and great fears were felt as to the ultimate result.

While this sheet was going through the press, Mr. Square wrote to me on December 9 as follows :—

There is no doubt in my mind that our patient would have recovered, had not a malignant disease developed itself. You can state this as my opinion, and make it clear to the profession that malignant disease, and not the operation, has been the cause of a certain fatal result. Before the operation and a view of the interior of the cyst, no skill or intelligence could have diagnosed the existence of tumour in her system ; and although the microscopic examination no doubt excited suspicion in your mind, still the result which we contemplated was not then certain, for amyloid disease exhibits much the same microscopic characters as those described by Dr. Ritchie as pertaining to

certain parts of the interior of the cyst. Two or three years ago I removed a tumour having the microscopic characters described by Dr. Ritchie, and the lady is still alive and quite well. I am sure that after reading a clear statement of this case the profession will see its point, and will not classify it with the deaths fairly incident to the operation itself.

Mr. Square afterwards wrote to tell me that this patient died on the 20th of December.

CASE CXII.

Ovarian Cyst, Never Tapped; Ovariotomy; Recovery.

ON the 4th of November 1864 I met Dr. Greenhalgh for the purpose of consulting as to the probability of successfully performing ovariotomy in the case of a young lady nineteen years of age, unmarried, of a florid complexion but somewhat strumous look, with filbert nails. There was no great emaciation, and the general health was so satisfactory that she was able to walk a mile or more without fatigue. The chest was healthy. The girth at the umbilical level was $37\frac{1}{2}$ inches, the distance from the umbilicus to the ensiform cartilage 9 inches, to the pubic symphysis 8 inches, to the right ilium 9 inches, and to the left ilium 11 inches. The abdomen was occupied by a uniformly-fluctuating tumour, which only left the epigastrium and the hypochondria free. The left loin was clear, the right duller. The tumour was not visibly very moveable; the parietes were moderately thick, and the skin was unmarked by dilated veins or lineæ albicantes. There was no tenderness on pressure. The catamenia had first appeared at the age of twelve or thirteen, and had always been attended with pain. Since May 1864 they had been very scanty, and had not been seen at all since the end of September. The history of the case was that towards the end of 1862 a little abdominal fulness had been observed, and a year later the waist was found increased in size. In September 1863, while running, the patient strained herself: a feeling of vaginal fulness and bearing down of the uterus was experienced, and she was confined to her room for a week

suffering from these symptoms and from pain in the side. After recovering from this little attack pain and numbness were experienced in the left thigh. In January 1864 the increase began to be more rapid. In March Dr. Greenhalgh was called in, recognised the true nature of the disease, and prepared the friends for ovariotomy becoming necessary. After this time until I saw her the tumour steadily enlarged. We arrived at the following diagnosis: 'Ovarian cyst, principally single; free from adhesions; side doubtful.' I stated my opinion that the case was a fair one for trying tapping if the patient wished for delay, but that no permanent good could be done except by ovariotomy, and it was arranged that the operation should be performed after the cessation of the next monthly period. I performed it on November 15, 1864, with the assistance of Dr. Greenhalgh, Dr. Ramsay of Torquay, and Dr. Wright: Dr. Parson gave chloroform.

The incision was commenced an inch below the umbilicus, and was carried downwards four inches. There were no adhesions. Several pints of clear yellowish fluid were removed, containing abundant shining scales of cholesterine, and the tumour was drawn out. The pedicle sprang from the right side of the uterus; it was two to three inches long, and as broad as three fingers. A small simple cyst was contained within the folds of the broad ligament, and had to be opened before the pedicle could be secured. The smallest clamp was used. There was a little bleeding from an epigastric vein, but it was easily controlled by compression. An artery, however, was tied on the left side of the incision. The left ovary was enlarged to nearly double the normal size. Two follicles, about the size of cherries, were distended by clot, and these I laid open, turning out their contents. The wound was closed with four deep and three superficial sutures.

The operation was peculiar on account of the doubt as to the treatment of the left ovary. I resolved, after consulting with Dr. Greenhalgh, not to remove it because,—

(a.) The ligature which would have been necessary would have added seriously to the risk of the operation.

(b.) It is not certain that *disease* was present in the ovary or that it would progress, and if it did a second ovariotomy could still be done.

(c.) It seemed hard to unsex a girl of nineteen. Perhaps the clots might have been left alone, but turning them out could do no harm and *might* do good.

As to the diagnosis: As the right loin was dull and the left clear, it seemed likely that the right ovary was diseased; but the distance from the ilium to the umbilicus being two inches greater on the left than the right side, it appeared more like disease of the left ovary. I pointed this out to Dr. Greenhalgh at our first consultation as an element of doubt. It was explained at the operation. The cyst had been turned partly round, had twisted the pedicle, and had grown over to the left side in front, while its hinder part was still held to the left.

The patient rallied well from the shock of the operation. There was some pain, but it was relieved by opium. At 10 o'clock the pulse was 130, the skin and kidneys acting freely, the pain slight. On the first day after the operation the pulse varied a good deal; at 9 o'clock in the morning it was 118, at 1.30 in the afternoon it was 130, at 4.30 it was 120, and at 10 o'clock 116. There was plenty of urine, and the patient was sick only once during the day. I cut away the slough beyond the clamp, and changed the lint on the wound. On the fourth day I removed the stitches, and found that the wound had united. On the seventh day the clamp was attached only by a shred of slough, and I consequently removed it. A nipple-like projection of the pedicle was seen at the bottom of the wound, but this sank after a few days to the level of the skin. The bowels did not act till the thirteenth day, and then only after injections and castor-oil, but there had been no inconvenience from the constipation. The appetite remained good, and convalescence was rapid. The patient was sitting up dressed in less than three weeks, and went into Somersetshire exactly four weeks after the operation.

Dr. Ritchie's report of the tumour is as follows:—

'The specimen handed to me was a large empty sac twelve inches in diameter. Its walls were fibrous, and had an average thickness of one-fifth of an inch, except at intervals where mural cysts were developed. Most of the mural cysts were small, not larger than a healthy Graafian follicle nearly ready for bursting. They were very sparsely scattered over three-fourths of the circumference of the sac, but in what had

originally been the inferior fourth of the tumour they were more abundant and larger. At the very lowest point ten to twelve of the mural cysts were as large as ordinary pippins, and closely crowded together. The tumour was covered externally with peritoneum, in which marks of inflammatory deposit and of old clot were visible. The lining-membrane of the cyst had that mucoid appearance which is so frequently met with in ovarian cysts. Here and there fibrine had been deposited, but what arrested attention at once when the cyst was cut open was the appearance of three round ulcers the size of half-a-crown. These ulcers (for so at least they appeared to be) were perfectly circular; their surface was sunk considerably below the level of the rest of the lining-membrane, so that the cyst-wall was thinned; they were intensely injected, and their bright scarlet colour contrasted strangely with the brownish-grey appearance of the rest of the lining.

'The theory of the formation of the tumour appeared simple enough. The various cysts were Graafian follicles more or less distended, the stroma of the ovary being to a great extent absorbed. On examining sections of the thinnest part of the wall of the large cyst—a part of the wall which, according to the theory, ought to have consisted, from without inwards, of (*a*) the peritoneum, (*b*) the tunica albuginea, and (*c*) the wall of the Graafian follicle—it was found that the structure was not so simple as had been supposed. It was seen that the wall of the cyst did not consist of mere fibrous tissue but of true ovarian stroma. The stroma was abundantly supplied with corkscrew arteries, and contained primordial follicles in various stages of advancement. It is evident that this was hyperplasia of ovarian tissue. Grohe has given his opinion that no new follicles are formed in the ovary after birth—that in the infant ovary are to be found the germs of all the ova which will ever be discharged—and that the process which goes on in the ovary after birth is only one of maturation, not of formation.'

'It is difficult to see why this should be the case. There is no reason to suppose that the laws of nutrition of the ovary differ from those of other glands. Grohe's sole argument appears to be that there are so many ova present at birth that there is no use for any more. Such an argument cannot for a moment stand against a fact such as the cyst just described, where the walls of a sac twelve inches in diameter were almost entirely formed by a layer of ovarian tissue a quarter of an inch thick.'

CASE CXIII.

*Multilocular Ovarian Cyst; Spontaneous Rupture;
Tapping; Ovariotomy; Death on the Third Day.*

ON the 31st of August 1864 I was consulted by a single woman, 51 years of age, on account of enlargement of the abdomen. The girth at the umbilical level was 48 inches ; the distance from the umbilicus to the ensiform cartilage was $13\frac{1}{2}$ inches, to the symphysis pubis 11 inches, and to either ilium 15 inches. This increase was due in some measure to fluid which was free in the peritoneal cavity, and masked the outline and physical characters of a movable tumour which appeared to reach some inches above the umbilicus. The abdominal parietes were thin ; there were no lineaæ albicantes ; and the veins, although here and there dilated, were not varicose. The sternum was pushed outwards. The catamenia, after having been regular and tolerably profuse for twenty-five years, had finally ceased in 1858 ; leucorrhœa was a constant and troublesome symptom. The uterus was free and in its normal position ; the sound only entered it $1\frac{1}{2}$ inches. A small mucous polypus was felt growing from the cervix.

On inquiring into the patient's history I found that her mother had died of cancer of the uterus at the age of fifty-four ; her father had died young, of brain-fever ; two sisters were alive and well, and the rest of her blood-relations were healthy people. She herself was born in Yorkshire. From the age of seventeen she had acted as lady's-maid and housekeeper in a family whom she followed annually from town to country. When about thirty years old she had had an attack of pneumonia, and some years later she was laid up with dysentery. It was in the autumn of 1862 she first observed that her size increased. At that time she suspected that she was ruptured, but had little leisure for taking care of her own health ; for her mistress was dying, and for nearly seven months required her constant assistance. In November 1862 her mistress died. The patient's health had then suffered considerably ; she complained that all her dresses were too tight for her. Dr. Watson saw her and sent her to Margate. Early in 1863 the increase began to make rapid strides. The patient, anxious to re-establish her failing strength, travelled to the North.

For two months she was annoyed by numbness of the right leg; and one day, when in a bath, she accidentally observed that there was a distinct tumour in her abdomen. She came back to town in October. In the spring of 1864 she fell, and injured her left leg; she consulted an eminent surgeon, who advised her to wait until her symptoms became more urgent. She consequently returned to the North, although suffering considerably from swollen legs, and only came back to London a few days before I saw her.

My diagnosis, written down at the time, was: 'Ascitic fluid around movable nodular tumour; nature of tumour doubtful, not connected with uterus, or, if so, pediculated; small polypus of cervix uteri.' I removed this polypus at once, and prescribed a ferruginous tonic and an occasional aperient. I again saw the patient on November 4, 1864. The girth at the umbilical level was then $51\frac{1}{2}$ inches; the distance from the umbilicus to the ensiform cartilage was $13\frac{1}{2}$ inches, to the pubic symphysis 11 inches, to the right ilium 18 inches, and to the left ilium 17 inches. The patient was much emaciated, and breathed with difficulty. I tapped, and removed thirty-four pints of straw-coloured, slightly viscid clear fluid, which appeared to be a mixture of ascitic and ovarian fluids from the peritoneal cavity. On the 7th I found her much relieved. A large smooth semi-solid ovarian tumour remained, and we arranged that ovariotomy should be performed. On the 10th the lungs were carefully examined by Dr. Ritchie. There was a troublesome cough and frequent frothy expectoration, and the patient had constantly to remain in a semi-recumbent position. Expiration was prolonged. There was no perceptible dulness. Bronchial breathing and bronchophony were heard under the right clavicle; elsewhere the air seemed to enter the pulmonary vesicles tolerably freely, except when temporarily excluded by mucus in the larger bronchia. The pulse was 120, the sounds of the heart normal in rhythm but deficient in force. The appetite at this time was very poor; the patient was constantly tormented with thirst and flatulence. There was no pain, but sleep was only to be had in brief snatches of scarce half an hour's duration.

I performed ovariotomy on November 22, with the assistance of Drs. Cleveland, Ritchie, and Wright: chloroform was

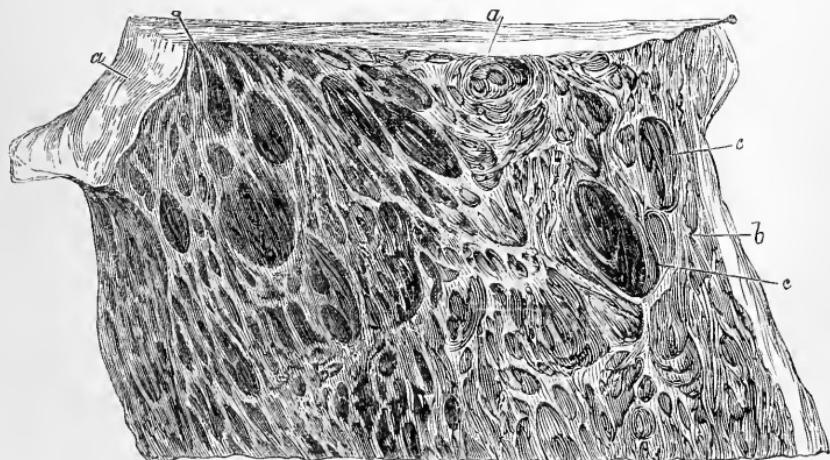
administered by Dr. Parson. The incision extended from three inches above to seven or eight inches below the umbilicus; its superior termination was marked by the partially-healed puncture made by the trochar on the 4th of the month. There were no parietal adhesions. Posteriorly a coil of intestine had to be detached as well as a large piece of omentum. The latter was temporarily secured with a clamp, afterwards tied in three divisions and returned. The pedicle was as broad as four fingers, and was very closely attached to the left side of the uterus. A middle-sized clamp was fixed rather round the neck of the cyst than round the pedicle, in order to allow of its being kept out without producing excessive traction. Only one vessel was tied in the abdominal wall. The opposite ovary was indistinguishable, either from its having atrophied, or from being concealed among the adhesions which surrounded the uterus. The wound was closed with ten deep and six superficial silk sutures.

It may be observed as a peculiarity in the operation that a great deal of ovarian matter, which had been mixed with the ascitic fluid and was lying free in the peritoneal cavity, began to escape as soon as the first incision was made. It was impossible to clear out the fluid thoroughly, as it had infiltrated the omentum, mesentery, &c. I succeeded, however, in clearing the pelvis completely. The patient rallied very fairly, considering her weakly state. At 10 P.M. the pulse was 116 and the voice good; two 15-minim doses of laudanum had been given. She passed a fair night; there was a little sickness and pain, but both symptoms were relieved by opium. Next day the urine was loaded with lithates and perspiration was free, the pulse 120, and the voice and aspect tolerably good. At 11 A.M., after some coughing and retching, the clamp came off, and there was a little serous discharge beside the pedicle. In the afternoon I found that the pedicle had sunk partly into the abdomen and was almost out of sight, although some shreds adhered to the edges of the wound. There was no bleeding; she vomited all the afternoon, and the pulse was 140. On the second day stimulants were freely given. At 9.30 I changed the dressing on the wound and her bed. The pulse was 140, very feeble. Five grains of hyposulphite of soda were ordered every two hours. The retching continued all the afternoon. There was no sleep all night, and

the retching continued ; the patient began to moan, and died at 10 A.M. on the third day, sixty-seven hours after the operation.

The following is Dr. Ritchie's report of the tumour removed :—

' Eight quarts of fluid, evacuated during the operation, were measured, and perhaps as much again was spilt. The fluid was straw-coloured and serous-looking, most of it being evidently ascitic ; numerous irregular lardaceous-looking masses of about the size of a gooseberry floated about in it. Some of the masses were fatty, but most of them consisted simply of coagulated ovarian mucin or metalbumen. The tumour itself weighed from 15 to 20 lbs. ; its texture was soft and friable, so that in handling it it tore by its own weight. On what had originally been its inferior and posterior aspects it was much broken up, but it was impossible to say how much of this was due to the operation itself, how much had been antecedent to it. The external surface of the tumour was in some parts marked by traces of adhesions. The structure of the tumour was tolerably simple, and is well shown by the accompanying engraving, which is a section perpendicular to the surface, and reduced to a quarter of the actual size.'



'The investing membrane, the tunica albuginea (*a*), is seen partially in profile ; continuous with it the fibrous trabeculae (*b*) enclose small spaces (*c*) ; these spaces were filled originally with mucoid fluid. Essentially the tumour was identical with that removed in Case 108 ; in that case the spaces were only larger, their walls thinner, and the contents more transparent.'

CASE CXIV.

Semi-Solid Ovarian Tumour; Never Tapped; Ovariotomy; Recovery.

ON the 25th of August 1864, an unmarried woman, 34 years of age, a book-stitcher by trade, called to consult me about a swelling in the abdomen, which had been pronounced by Dr. Barnes to be a tumour only removable by operation. The patient was considerably emaciated. The extremities were warm, and there was no œdema nor varicosity of veins about the legs. The mammary areolæ were not deeply coloured ; the follicles were large ; and in the left mamma was a nodule the size of a walnut. The digestive organs were in tolerably good order, although flatulence was a troublesome symptom. Sleep was disturbed, and rheumatic pains were complained of in the limbs and shoulders. There was an occasional cough, getting worse at night, and a little expectoration of thick mucus. The breathing was shallow and tubular, especially on the right side, but there was no appreciable dulness. The pulse was 110, and the heart's tones normal. The quantity of urine was diminished, and there was occasional retention even for two days at a time. The abdomen was manifestly distended. The girth at the umbilical level was 35 inches, the distance from the umbilicus to the ensiform cartilage $8\frac{1}{2}$ inches, to the pubic symphysis $7\frac{1}{2}$ inches, and to each ilium $9\frac{1}{2}$ inches. The upper margin of the spleen reached to the seventh or eighth rib ; its lower margin could not be traced. The liver was not displaced upwards ; its lower margin could not be defined. A tumour filled the abdomen, reaching up to within two inches of the ensiform cartilage, and occupying the entire abdominal cavity, with the exception of the right iliac region. Fluctuation was not well marked in the tumour ; which, however, had an elastic feeling, highly suggestive of the presence of very viscid fluid. There was considerable tenderness, especially over the left ilium. All over the tumour arterial impulse was well marked. In the left iliac regions and elsewhere there was a bellows-murmur synchronous with the radial pulse. The catamenia, which had first appeared at the age of seventeen, had always been profuse. There was no leucorrhœa. On examining *per vaginam*, the hymen was

found to be entire. The anterior wall of the vagina, towards the right side, was somewhat depressed by a very hard rounded tumour not tender on pressure. The uterus was far back and almost out of reach ; the cervix felt soft.

The patient told me that her father had died of heart-disease, and that her mother and six brothers and sisters were all alive and well. She had been born at Stepney, where she had spent her youth, and she had no idea what brought on her disease. Two years previous to my seeing her, she had observed a swelling in the abdomen, which she persisted in saying had 'begun across the chest and gradually grown downwards.' At first the symptoms were not alarming, consisting of pain in the right groin and a bearing-down of the uterus, with darting pain in the left breast. The tumour did not increase much in size, but the symptoms became aggravated. Palpitation, dyspnœa, burning heat in abdomen, and pain in the back, along with occasional attacks of dysuria, were sufficiently distressing, and occasionally became so urgent as to confine the patient to her bed. It was just after recovering from one of those attacks that she came to me. As I was on the eve of leaving town, I prescribed some iron, and Dr. Ritchie saw her for me on September 8, when she complained of being unable to see well at night, blue flames often dancing before her eyes. The pupils were dilated, and the retinæ were very pale ; the bloodvessels, however, were well injected. The patient thought that the iron was increasing her appetite ; she was told to continue it, and to take some wine daily. On the 15th of September she was much in the same state. The blood was examined microscopically by Dr. Ritchie, and found not to contain any excess of white corpuscles. The red ones, however, instead of running into rolls, showed a tendency to cohesion by their margins. Beeberine was ordered. On the 22nd menstruation began. Fluctuation was felt in the right upper angle of the tumour, which appeared to be softening. The stomach was displaced upwards, and the transverse colon could be traced beneath the lower margin of the liver. On the 29th the abdomen was measured, and found not to have altered in the slightest from the previous measurements.

She was first admitted to the Samaritan Hospital, October 8, 1864. There was still menorrhagia and dysmenorrhœa, but no clots passed. The girth was $36\frac{1}{2}$ inches, the measurement from

sternum to pubes 16 inches, and from ilium to ilium $18\frac{1}{2}$ inches. The right lumbar region was resonant, the left dull. The tumour was much in the same state as before. Some doubt having been expressed by different gentlemen who saw the patient as to the nature of the tumour, I wrote in the Hospital case-book on October 28 as follows: 'I found a large semi-solid ovarian tumour. The uterus is pushed backwards, and the fundus flexed to the right.' She was quite willing to have ovariotomy performed; but the general health not being in a very satisfactory state, I sent her to the Convalescent Institution at Walton. She returned, and was readmitted to the Samaritan Hospital on the 25th of November—having ceased to menstruate on the 19th. On the 28th I entered in the case-book, 'Uterus still pushed backwards by the tumour in front of it, which appears to be unattached. It *certainly* is not attached to the abdominal wall, and *possibly* not between uterus and bladder; but this is not certain.'

I performed ovariotomy upon the 30th of November—Dr. Lawrence, R.N., Dr. Griffith of Peckham, and Mr. Savory of Stoke Newington being among the visitors: chloroform was given by Dr. Parson. At first a small incision was made below the umbilicus, a cyst was tapped, and two or three pints of fluid escaped; then two or three other cysts were tapped inside the first, but very little diminution in the size of the tumour could be effected. The incision was therefore enlarged till it extended from three inches above to six inches below the umbilicus. There were no adhesions, but there were a few ounces of ascitic fluid in the peritoneal cavity. The pedicle was about two inches long, and as broad as three fingers. It sprang from the left side of the uterus. I secured it with a medium-sized clamp, which was made to fix by a screw on its arc. As I feared this might slip, I tightened a wire-rope, by means of a small *écraseur*, round the pedicle below the clamp, and left the instrument on. Beneath this again, I tied the pedicle with a strong silken ligature. Haemorrhage was only superficial, and was easily restrained by compression. The right ovary was found to be healthy, and the wound was closed with eight deep and six superficial sutures of silk. The operation was peculiar only in the smallness of the size of the cysts, leading to the necessity of a large incision, and from the extra precautions which were taken to keep the pedicle

from slipping on account of the construction of the clamp. The quantity of fluid collected after the operation was five or six quarts, and about as much was spilt. The tumour weighed about fifteen pounds. The following is Dr. Ritchie's report of it :—

'A resistent oblong tumour, weighing about fifteen pounds, and with a long diameter of fifteen to sixteen inches. The outer coat was smooth and glistening, without a single trace of adhesion, its only inequality being the remains of the pedicle.'

'On the most superficial examination the tumour was seen to be made up of a large number of loculi, which differed very considerably in size, but were on the average as large as an orange. The largest of the loculi was at the right upper angle of the tumour. It contained about a quart of yellowish mucoid fluid. A transverse section of the tumour having been made, it was seen to be composed of an investing membrane, from which projecting layers ran inwards and intervened so as to enclose irregularly-shaped spaces. These spaces, with very few exceptions, were filled with a fluid having all the appearances of thin arrowroot. The largest spaces were those nearest the anterior wall of the tumour; those close to the posterior wall were not larger than a walnut. The investing membrane was about a quarter of an inch thick. In its section were observed numerous bleeding points, the mouths of cut vessels. It was covered externally with peritoneum. This layer was examined very carefully microscopically, as it was thought that it might prove to be ovarian tissue with nascent follicles. No such structure was to be seen. The layer appeared to be for the most part fibrous tissue, although at intervals the fibres became indistinct. The vessels of the tissue had not the corkscrew arrangement which is met with in healthy ovaries. The epithelium lining the loculi was generally tesselated, but in some places was not only columnar but stratified. The partition-walls between the loculi were one-eighth of an inch thick, and consisted of a layer of fibrous tissue epithelialated on both sides. Within some of them little cysts were developed. One of these, about half the size of a cherry, was opened, and the fluid within it examined. It was mucoid but clear. Microscopically it contained an immense number of the oval granular cells so often described. Ether was added, but caused little or no alteration in them. The wall of this cyst was lined with tesselated epithelium arranged in hexagonal plates; each plate or cell was about half the size of one of the oval granular cells, many of which adhered to the paving cells. Beneath the tessellation the wall of the cyst was fibrous.'

The patient recovered well from the chloroform, but required

some opium. Six hours after operation I took away the compressing apparatus of the *écraseur*, leaving the wire-rope on. On the second and third days the patient was very well, but required eight grains of opium on the second day; in other words, twenty minims of laudanum were injected eight times. On the fourth day, the wound being well united, I removed the stitches. On the seventh day the clamp was hanging by a mere shred of dead tissue; and as there was some neuralgic pain in the right hip, I removed the clamp. There was a little dyspnœa, a symptom which had been also previously observed. Acetate of ammonia was given freely, and apparently with benefit. The bowels acted freely on the tenth day, after an injection of warm water. There was some escape of pus for a few days from three or four of the suture tracks, but convalescence progressed very favourably, and she was about to leave the hospital when this sheet was in the press.

The above cases, 114 in number, are all the cases in which, up to November 1864, I have completed the operation of ovariotomy, except that which follows, in which I performed it for the second time upon the same patient. This case is so exceptional—so unlike any case where we have to consider whether the operation shall be done for the first time—that I have placed it alone:—

*Account of a Patient upon whom Ovariotomy was
performed Twice.*

In November 1862 I was consulted by a married woman, 42 years of age, from whom an ovarian tumour had been removed six months before by another surgeon. She left the institution in which ovariotomy was performed three weeks after the operation; but about a week after going home she became sick, and noticed an enlargement on the right side of the abdomen. She consulted Sir Charles Locock, who had seen her before the first operation, and who told her that another tumour was growing. Sir Charles saw her again in October, told her that the tumour was increasing, and advised her to wait about three months before having a second operation performed.

When she came to me, I was not aware that ovariotomy had

ever been performed twice on the same patient. A case had been recorded in America where one surgeon had attempted to remove an ovarian tumour but failed in his attempt, and another surgeon had afterwards succeeded. But I could find no case on record in which a patient had recovered after ovariotomy, and had afterwards undergone the operation a second time on account of disease of the remaining ovary. I was therefore very anxious to obtain the opinion of eminent men respecting this patient, and I believe that several who saw her with me looked upon the case as unprecedented. But I have since learned that Dr. Attlee of Philadelphia has performed ovariotomy successfully upon a patient from whom Dr. Clay of Manchester had removed an ovarian tumour of the opposite side sixteen years before.

When the patient first consulted me the tumour filled the greater part of the abdomen below the level of the umbilicus. On the right side it was elastic and obscurely fluctuating, while on the left side it was very hard. The uterus seemed to be closely connected with the hard tumour on the left side. The catamenia had not appeared since the first operation; but at every monthly period she had had pains in the back and thighs, lasting for a day, and leaving pain in the right hip and swelling of the breasts for two or three days. Ever since the operation she had complained of pains below the epigastrium, with flatulence, and the bowels never acted without purgative medicine.

On December 25 the usual symptoms returned with the monthly period; but this time the discharge came on, not excessive in amount, without clots, and lasted five days.

On the 3rd of January 1863, the girth of the abdomen at the umbilical level was thirty-five inches, and forty inches over the most prominent portion of the abdomen, which was about three inches below the umbilicus. The distance from symphysis pubis to umbilicus was eleven inches, and from umbilicus to ensiform cartilage six inches. From one anterior superior spinous process of the ilium across the abdomen to the opposite process the distance was eighteen inches. There was a hard cicatrix three-quarters of an inch to the right of the linea alba, extending from two inches below the umbilicus to seven inches from this point—the cicatrix thus being five inches long. The tumour moved freely beneath the abdominal wall, but there was

a slight crepitus felt nearly all over it as it moved. There was still the same extreme hardness of that portion of the tumour to the left of the umbilicus, and the same elasticity and obscure fluctuation of the portion to the right, as at my first examination.

It was evident that the connection between the uterus and the tumour was close, for as the patient turned on her side the uterus was pulled almost out of reach. The uterine sound passed to four-and-a-half inches—not towards the hard tumour on the left side, but towards the right side, its point being distinctly perceptible just above the right internal abdominal ring. Fluctuation could be detected (though not very distinctly) in the vagina, below the hard portion of the tumour on the left side.

I communicated with Sir Charles Locock upon all these points, and proposed to make an exploratory incision, and to be guided by the connections of the tumour as to further proceedings. Sir Charles approved of this suggestion, and added, ‘The operation affords the only hope of relief.’

Before proceeding to operate I considered whether it would be better to make the incision through the linea alba—that is, within an inch of the cicatrix—or in one of the lineæ semi-lunares. But as there was some doubt whether the tumour was a growth from the right ovary, or a growth of some portion which had not been removed from the left side—in other words, whether the uterus was *pulled* or *pushed* to the right side—it appeared to be safer to cut in the median line than to run any risk of making the incision on the side opposite to the uterine attachment.

I performed the operation on January 13, 1863. Mr. Clover administered chloroform, and I was ably assisted by Dr. Drage of Hatfield, Dr. Savage, and Mr. Webb of Welwyn. I made an incision over the linea alba three-quarters of an inch to the left of the cicatrix, and parallel with the lower four inches of it. On dividing the peritoneum the tumour was seen to be composed of very thin-walled cysts, very tensely distended with clear fluid. These cysts, or rather divisions of a multilocular cyst, passed successively through the opening in the abdominal wall as Dr. Savage pressed the tumour from behind forwards. Several filmy layers of organised lymph and a layer of expanded omentum were pressed outwards before the cyst, and were

divided on a director. A piece of omentum which adhered both to the cyst and to the abdominal wall near the upper part of the incision was easily separated, and the tumour was then pressed out entire without emptying any of the cysts. The pedicle was short, but it was easily secured by a clamp; it passed in the usual manner from the right side of the uterus. The uterus seemed to be of natural size; no remnant of the left ovary was found. After cutting away the tumour there was some oozing of blood around the clamp, but it was stopped by tying a ligature tightly round the pedicle beneath the clamp. One bleeding vessel in the abdominal wall and two in the omentum were also tied. Just above the upper angle of the wound a long coil of small intestine adhered firmly to the abdominal wall. As the patient had complained of pain at this spot, and had suffered from constipation ever since the first operation, I examined the connection between the intestine and the abdominal wall to see if they could be separated safely; but the adhesions appeared to be so very close that I did not attempt to effect any separation. The wound was closed by deep and superficial silk sutures.

The cyst is a good specimen of what is known as the compound proliferous cyst: small groups of minute cysts not only grow into the cavity of the parent cyst, or project inwards, but also perforate the cyst-wall and project into the peritoneal cavity.

The patient rallied remarkably well after the operation, and for forty-eight hours seemed to be recovering. Two small opiates were given on account of pain, but reaction was not excessive. The aspect was good; and the tongue, though white, was moist. The pulse was about 100. I removed the clamp forty-four hours after operation, as it seemed to be lying quite loose on the wound; the ligature which had been tied beneath it also came away with a shred of dead fibrous tissue. There was no bleeding. I also removed three of the sutures.

On the 16th, the third day after operation, there was some flatulent distention of the abdomen and frequent eructation, but no vomiting. The rectum was cleared by an enema. At 9 P.M., during one of the 'fits of belching,' as the nurse called them, the lower part of the wound gave way and a knuckle of intestine protruded: a good deal of fœtid serum also escaped.

I returned the intestine, reapplied three sutures deeply, and the patient did not seem to be worse. On the next day, the 17th, there was free foetid discharge from the lower part of the wound, and vomiting became troublesome; but the pulse was not more than 110, and the aspect was good. On the 18th the pulse had risen to 120, but the tongue was moist and cleaning from the edges, and the colour of the cheeks and lips was very good. Still she was decidedly weaker, and the tympanites was increasing. She continued to become weaker all the next day, notwithstanding the free use of stimulants and nourishment both by the mouth and the rectum; and she died on the seventh day, or 154 hours after the operation.

Décomposition of the body took place very rapidly. There was a good deal of foetid serum in the peritoneal cavity, and some traces of recent peritonitis were also shown by flakes of lymph. There was no blood nor clot to be seen, and only one or two shreds of sloughy tissue at the spot where the tumour had been removed from the right side of the uterus. The pedicle of the tumour first removed connected the left side of the uterus closely with the abdominal wall. The adhering portion of intestine observed during my operation was so closely attached to the abdominal wall that it was difficult to separate it by dissection; and the greater part of the omentum also adhered to the abdominal wall.

An account of this case was read before the Royal Medical and Chirurgical Society in June 1863, and appears in the 46th volume of the 'Medico-Chirurgical Transactions' with the following remarks:—

'This case alone is sufficient to prove that ovariotomy may be performed twice on the same patient without any unusual difficulty. What the risk may be as compared with the risk of first operations can only be ascertained by a number of cases.'

'Reflection upon this case would seem to suggest that, in performing the operation for the second time on the same patient, it may prove advisable to make the incision at some distance from the cicatrix left after the first operation; or, if the incision be made near the cicatrix, it may be necessary to leave the sutures longer than in ordinary cases, as the process of union may be slower near a cicatrix than in an uninjured part.'

' The lessons suggested to those who perform ovariotomy under ordinary circumstances are—

' 1. That the operator should be careful not only to remove every portion of an ovarian tumour on one side, if it be possible to do so, but also to examine the opposite ovary carefully, and to be guided in his practice by the knowledge that if the ovary be not healthy and be left behind, morbid growth will probably take place and a second operation be required.

' 2. That in uniting the wound in the abdominal wall the divided edges of peritoneum should be brought closely together in the manner which I was the first to propose in a paper presented to this Society five years ago. The adhesions between the omentum and intestine and the abdominal wall observed in this patient precisely resemble the condition which I have observed in dogs, rabbits, and guinea-pigs after opening the abdomen and closing the wound by sutures which have *not* included the peritoneum. In every case the serous bag was completed by adhesions of portions of omentum or intestine, or of both; and in some cases the animals were greatly inconvenienced by these attachments. But in all the cases where two surfaces of peritoneum had been pressed together by the sutures, union took place without any adhesion of intestine or omentum. Several preparations are placed on the table of the Society which illustrate this fact, and show that the supposed danger of the sutures coming into contact with and irritating the viscera, or of the tracks of the sutures forming fistulous openings between the skin and the peritoneal cavity, are purely imaginary dangers. It is demonstrable that the folding together of the peritoneal borders of the wound completely conceals or shuts off the sutures from the cavity of the peritoneum; and even if the sutures are left long enough to form sinuses, these must still be external to the peritoneal cavity.

' The surgeon who performed the first operation on this patient does not include the peritoneum in his sutures; and I think that the adhesion of intestine and omentum, with the consequent discomfort and constipation suffered by the patient—evils observed in animals so treated, but never observed in those where the peritoneum had been included in the sutures,

nor in any of the patients who have either died or recovered under my care—are strong arguments in favour of that mode of uniting all penetrating wounds of the abdominal wall which I have submitted to the consideration of the Profession in this and former papers brought before the Society.'

CASES OF INCOMPLETE OVARIOTOMY.

THE foregoing cases include, as I have before stated, every case, without exception, in which I have completed the operation of ovariotomy. I now add all the cases, without exception, in which I have commenced the operation but have not completed it. In some of these cases it was commenced with the hope that it might be completed; in others the first or exploratory incision was made simply to complete a doubtful diagnosis, or to satisfy the patient and her attendants, as well as myself, that my opinion as to the impossibility of completing the operation was correct. In one case the first incision was made with the express provision that if the cyst proved to be adherent nothing beyond tapping should be attempted.

In the arrangement of these cases I have adopted the following order :—

1. Cases in which the incision only was made.
2. Cases where tapping followed the incision.
3. Cases where some adhesions were separated.
4. Case where nearly the whole of the tumour was removed.

I.—CASES OF SIMPLE INCISION.

CASE 1.—Intra-Abdominal Cystic Tumour situated behind Intestines; Exploratory Incision; Death Four Months afterwards from Spontaneous Rupture of a Cyst into the Peritoneal Cavity.

A SINGLE woman, 28 years of age, applied to Dr. Rogers, in February 1857, on account of frequent pain and difficulty in passing urine, which had occasionally rendered the use of the catheter necessary. The catamenia were abundant,

but regular, and there was occasional leucorrhœa. Dr. Rogers discovered a small tumour in the left iliac region, which could also be felt on vaginal examination. This tumour gradually increased in size, and caused much tenderness above the pubes and in the left iliac region. After four or five months it could be felt more distinctly on the right side of the abdomen, and on vaginal examination to the right side of the os uteri, so that in the summer it was thought to be a tumour of the right ovary. It grew rapidly during the autumn, and the patient was admitted under my care, in the Samaritan Hospital, in December 1857. She was then fast losing flesh. Her breathing was hurried and thoracic; pulse rather feeble; digestive organs in tolerable order; urine scanty, specific gravity 1020, not albuminous; catamenia regular. The abdomen was about the size of that of a woman near the full period of pregnancy; but the enlargement was not symmetrical, the left lower half of the abdomen being larger than the right. The superficial veins were enlarged. The abdomen was dull on percussion anteriorly and laterally, except in the epigastric region. It was felt to be filled by a large smooth rounded tumour, which in some parts fluctuated distinctly, in others did not. There was no evidence of any fluid in the peritoneal cavity. On moving the abdominal parietes over the tumour, a sensation was communicated of something being between the parietes and the tumour; and although the history of the case was very clear, some doubt was expressed as to the disease being really ovarian.

It was decided accordingly to make an exploratory incision, and I did this on the 29th December 1857, making it in the linea alba, commencing an inch below the umbilicus, and carrying it downwards to the extent of nearly three inches. Although the sound was dull on moderately strong percussion, I felt convinced that there was something between the parietes and the tumour, and opened the peritoneum very carefully upon Mr. Key's broad hernia director. Some folds of intestine distended with gas at once protruded into the wound; and on introducing the finger, the tumour was felt to be behind several other folds of intestine. It was moveable: but as it would have required a large incision to remove it, and much manipulation of the intestine would have been unavoidable, while the mere fact of its being behind the intestines was urged as making the nature of the tumour

doubtful, I closed the wound at once. No bad symptom followed the operation. The patient remained some weeks in hospital, and then attended as an outpatient. After a time fluid began to collect in the peritoneal cavity, and she was admitted into St. Bartholomew's Hospital, under the care of Dr. West, on March 29, 1858. On the 1st of April Mr. Paget removed eight-and-a-half pints of serum, slightly tinged with blood. After this the tumour became quite superficial. Some abdominal pain followed; and, after a few days, the integuments around the orifice made by the trochar sloughed, and there was considerable oozing of clear serum from the surface left after the separation of the slough. On the 19th she complained of sudden acute pain in the hypogastrium, and died on the following morning with all the symptoms of peritonitis from perforation.

On opening the abdominal cavity several pints of turbid yellow serum escaped, mingled with flakes of lymph. The peritoneum was in a state of acute inflammation. A large lobulated oval tumour was seen, attached only by a long slender pedicle formed of the broad and round ligaments on the left side. Immediately beneath the situation of the puncture in the abdominal wall there was a slough on the walls of the tumour. At the posterior portion, where the cyst-wall was very thin, a rupture had occurred, allowing the escape of the contents of a large cyst into the peritoneal cavity. On section the tumour was found to consist of several large cysts surrounded by semi-solid structure. The larger cysts contained a gelatinous fluid, varying in consistence in different cysts. The solid portion presented the ordinary appearance of pseudo-colloid ovarian tumour, the loculi in many places being exceedingly minute. The matter which exuded from them on section was very viscid and tenacious.

The uterus was somewhat atrophied; the right ovary of ordinary size, and healthy. The other organs were healthy, but the lungs had been compressed by the ascent of the diaphragm, and there was slight exudation of lymph on the pleural surface of the diaphragm on the right side, and on the pulmonic layer of the apposed pleura.

The following remarks were read with the above account of this case before the Royal Medical and Chirurgical Society, on the 8th February 1859 :—

‘Since the termination of this case I have found that the presence of intestine in front of an ovarian tumour has been observed by Piorry, Dr. Walshe, and Dr. Ballard; but it is a rare occurrence. It was allowed more than its due weight, however, in this case in leading to doubt as to the nature of the tumour.

‘I do not think the exploratory incision had much, if any, influence upon the progress of the case. There were no signs of ascites for some weeks afterwards, and the growth of the tumour did not appear to be more rapid after than before. It is true that the abdominal wall was somewhat weakened, and as the trochar was introduced through the thinned portion, this may have had some influence in occasioning the sloughing around the puncture, but none upon the immediate cause of death—namely, the rupture of a cyst into the peritoneal cavity, one of the ordinary modes in which ovarian disease proves fatal.

‘I believe this and a case which I saw with Dr. Snow Beck some months before were the first cases in which it was proposed to divide the pedicle of an ovarian tumour by means of the *écraseur*. I had long regarded the ligature on the pedicle and the sloughing of the stump within the abdominal cavity as one of the most frequent causes of death after ovariotomy. In cases when the pedicle is long this danger can be avoided by fixing the stump outside the wound; but where the pedicle is short the *écraseur* offered evident advantages. It was used soon afterwards in America by Dr. Attlee, who on March 23 separated a pedicle one inch in length by four in breadth in a lady sixty-one years of age without loss of blood; and the result of the operation was completely successful.’

As the history of the use of the *écraseur* in ovariotomy is of great interest, I extract the following sentences from the ‘Medical Times and Gazette’ of January 2, 1855:—

‘In a case of ovarian tumour at the Samaritan Hospital, last Tuesday, Mr. Spencer Wells proposed to use the *écraseur* for the division of the pedicle, should it prove after exploratory incision that the sac or tumour was non-adherent. * * * * The *écraseur* seems likely to prove of great use in ovariotomy, as the ligature of the pedicle and the consequent death of the stump are doubtless causes of the peritonitis which so often

leads to a fatal result. This case of Mr. Wells is most likely the first in which the use of this instrument has been proposed, with the exception of a case of Dr. Snow Beck's, some months ago, in which Mr. Wells also proposed the exploratory incision and *écraseur*, but which was afterwards treated by iodine injection.'

Soon after the publication of this suggestion, in January, the instrument was used in America by Dr. Attlee, on March 23. The following paragraph is taken from the 'North American Medico-Chirurgical Review' of May 1858:—

'Dr. John L. Attlee, of Lancaster, Pa., on March 23 removed a large multilocular ovarian tumour, from a lady sixty-one years of age, by means of the *écraseur*. He cast the instrument around the pedicle, which was one inch in length by four in breadth, and highly vascular, and succeeded in removing it in six-and-a-half minutes, without the loss of a drop of blood. The external wound was closed by silver sutures, and the woman made a rapid recovery.'

The practice has been followed up in America, for Dr. Pope relates four cases of ovariotomy in the 'St. Louis Medical and Surgical Journal' for January 1859, in two of which the *écraseur* was used to divide the pedicle, and Dr. Attlee has followed up his success. A reference to Case 38 will show what my own experience of the use of this instrument has been, and I shall make some further remarks upon it when I come to discuss the various modes of dealing with the pedicle of an ovarian tumour.

CASE 2.—*Ovarian Cyst adhering in Pelvis; Tapping; Exploratory Incision; Marriage; Further Relief by Tapping.*

An unmarried governess, 29 years of age, came to me, by the advice of Mr. Young of Sackville-street, in August 1860, with an ovarian tumour reaching nearly up to the ensiform cartilage, free from parietal adhesions, but closely connected with the uterus, which was high, far back, and closely surrounded by the tumour. The catamenia had entirely ceased

for the two preceding years, but during the whole of that time a coloured leucorrhœal discharge had been constant. The cervix uteri was soft and the os open. She had noticed some enlargement of the right side of the abdomen in 1855, but did not consult any medical man until 1857. In September 1858 she was three months in St. George's Hospital, under Dr. R. Lee, who advised her not to have anything done. I did not see her between August and October; but on October 8, as the tumour had increased and fluctuation was distinct, while the connections of the tumour between the uterus and bladder appeared to be very close, I agreed with Mr. Young to tap. I did so on October 9, removing eleven pints of turbid dark-brown viscid fluid which contained many small lumps of fatty or sebaceous matter and some fine hairs. She recovered well after the tapping, and was reduced in girth from $36\frac{1}{2}$ to 31 inches. The coloured discharge from the uterus, which had gone on for two years, ceased after the tapping. She filled again very slowly. The discharge began to appear again slightly in December 1860, and more copiously in March 1861. It went on increasing and the tumour slowly enlarging until October, and she was admitted into the Samaritan Hospital on the 19th of October 1861, in order that I might make an exploratory incision.

I had given her a strong opinion that the attachments between the uterus and bladder were so close that the tumour could not be safely removed; but a marriage in prospect made her extremely anxious that I should ascertain if my opinion was correct. Accordingly, on October 22, Dr. Routh having administered chloroform, I made an incision about four inches long between the umbilicus and pubes, and exposed a cyst which was quite free anteriorly, but which was so fixed below between the bladder and uterus that I did not attempt to do more. As the abdomen was rather tense, there was a question whether I should tap the cyst. In favour of tapping, was the fear that the wound might not heal from the tension of the parietes; against it, was the fear that some of the fatty and hairy contents of the cyst might escape into the peritoneal cavity. I elected not to tap, and closed the wound by harelip pins. She had a restless night, and some vomiting next day, but recovered very well. The pins were removed forty-eight hours after operation; two days after-

wards there was a free discharge of pus from one of the pin-holes. On the eighth day I tapped the cyst above the umbilicus, and removed ten pints of viscid fluid, much lighter in colour than that removed at the first tapping. She soon regained strength, and left the hospital a month after admission. She called on me in December in fairly good health. The uterine discharge, which ceased again after the tapping, returned in February 1862. The cyst filled slowly; the girth increased to thirty-eight inches. On July 4 I tapped for the third time at her own residence, with the assistance of Mr. Pierce of Notting-hill, and removed twelve pints of fluid.

Soon after this she married, and my next note of the case is that I tapped her for the fourth time on the 27th March 1863, and removed $14\frac{1}{2}$ pints of dark mucoid fluid. She was troubled seriously by vomiting after this tapping, but recovered well under Mr. Pierce's care. After this I did not hear of her until November 1864, when Mr. Pierce informed me that after the last tapping she had 'gone on well, not increasing in size, but being irregular as regards her catamenial periods. Three months ago, when the period returned, she had a very severe discharge; several large clots passed, and she was confined to bed for a week. From that time to the present she has not "seen anything," but is steadily increasing in size, and has none of the usual symptoms of pregnancy.'

CASE 3.—*Ovarian Cyst or Tubercular Peritonitis; Exploratory Incision; Recovery.*

ON the 31st July 1862 I saw an unmarried lady, 22 years of age, in consultation with Mr. Seymour Haden. The abdomen was as large as that of a woman near the full period of pregnancy, and was distended uniformly by fluid, which gravitated so decidedly to the lowest point with all changes of position, that it was evidently free in the peritoneal cavity; and looking to the appearance of the patient, and to the fact that she had had occasional pain, I had little doubt as to the disease being a sub-acute form of tubercular peritonitis. Mr. Haden, who six weeks before had tapped the patient, concurred in that opinion,

and a tonic treatment with diuretics was commenced. For a time she improved, but during the autumn all the symptoms were aggravated, and I met Mr. Haden again on November 3. A remarkable change was then found to have taken place. The abdomen was much more prominent or arched than before; it was dull anteriorly in all positions of the body, and clear in both flanks as she lay on her back. Moreover, on taking a deep inspiration, a cyst appeared to move downwards from the epigastrium beneath the parietes. Fluctuation was evident in all directions. This led me to doubt the accuracy of my first opinion, and it was arranged that she should be again tapped, partly to afford relief, and partly to clear up the diagnosis. She was tapped by Mr. Haden on November 12, and eighteen pints of clear amber-coloured fluid were removed, which deposited a cloud of flocculent mucoid substance, very much resembling that so often seen in ovarian cysts.

On November 19 Mr. Haden and I examined her again most carefully, with the express purpose of ascertaining whether we were dealing with tubercular peritonitis or with a thin non-adherent unilocular ovarian cyst. We both felt it impossible to arrive at a positive decision; but while Mr. Haden leaned to the belief in peritonitis, my own impression was rather the other way. In this state of uncertainty, and feeling that repeated tapping must be useless, it was arranged that a small incision should be made; and if a cyst was found it should be removed, whereas if there were no cyst the incision would serve instead of tapping. Accordingly on December 24, 1862, Mr. Clover administered chloroform, and, assisted by Mr. Haden and Dr. Savage, I cautiously made a small incision below the umbilicus and opened the peritoneum. No cyst appeared. A large quantity of opalescent fluid escaped, and then the whole of the peritoneum was seen to be studded with myriads of tubercles. Some coils of small intestine were floating, but the great mass was bound down with the colon and omentum, all nodulated by tubercle, towards the back and upper part of the abdomen. The uterus and ovaries were felt to be of the normal size, but their peritoneal coat was very rough. All the fluid was very carefully pumped out by an india-rubber syringe, the wound was closed by sutures, and the patient treated precisely as after ovariotomy. She went through rather a sharp

attack of peritonitis, but after two or three days suffered hardly more than after tapping. She passed large quantities of urine, and it seemed as if the use of the catheter excited this diuresis—so much so that Mr. Haden had it continued long after the wound was healed.

But the most remarkable part of the case remains to be told. The patient is now to all appearance perfectly well, and has been so ever since her recovery from the operation. Whether the peritonitis set up led to fresh adhesions or not, certain it is that no more fluid was secreted, and the patient regained health and strength. The case would serve as a striking appendix to Marten's curious paper 'On the Operative Treatment of Peritonitis.'

In a note which I received from Mr. Haden, dated November 1, 1864, he says, 'By a mere chance I happened to see her yesterday. I met her in the street. She was perfectly well.'

CASE 4.—*Ovarian Tumour; Rupture into Peritoneal Cavity; Tapping; Exploratory Incision; Temporary Relief.*

A MARRIED woman, 39 years of age, was sent to me by Mr. Henning of Tunbridge-Wells, and was admitted under my care into the Samaritan Hospital in March 1864. She had had five children, the youngest being ten years old, and she had miscarried once. Menstruation had always been irregular and scanty. A year after her last confinement pain was felt in the right groin; the pain was always worse at night. In the morning nausea was complained of. No tumour was discovered until nine months later; then a hard well-defined swelling was felt in the abdomen, low down and to the right side; it increased slowly and steadily for eighteen months. The patient at that time had a severe fall, and the tumour suddenly decreased in size. For four or five years, although the swelling was appreciable, it gave no trouble, but in March 1863 it began to grow very fast. About a fortnight before admission the right leg became painful, benumbed, and swollen.

On admission she was in a tolerably satisfactory state. Her pulse was 90—somewhat thready; her breathing was 23.

There was no disease of the lungs; the urine was healthy, the tongue clean, the appetite good. The abdomen was very considerably distended: the girth at the umbilical level was 42 inches, the distance from the ensiform cartilage to the pubic symphysis 21 inches. The lower part of the sternum was tilted upwards, and the false-ribs bulged out; the liver too was pressed high up into the thorax. The abdominal integuments were not abnormally thick, but they were seamed with old lineæ albicantes, scars of former pregnancies. The whole abdomen distinctly fluctuated. A tap on one side sent a visible wave to the other side; but beneath this superficial fluid a hard tumour was felt whose margin could not be well defined. The posterior wall of the vagina was pressed down by the fluid above it and prolapsed; the uterus too was low down. My diagnosis was: 'Multilocular ovarian cyst, right side; ascites; prolapsus of uterus and vagina.' On the 21st of March I tapped, drawing off twenty-five pints of yellow fluid, which was highly albuminous but clear, and contained the large nucleated cells with granular contents so characteristic of ovarian fluid. I therefore modified my diagnosis so far as to say, 'The ascitic fluid is probably mixed with ovarian fluid.'

After tapping, a mass was left on the right side, just under the liver, but separated from it. The uterus was moveable, and the pelvis free. A little pain and swelling of the left leg followed the operation, but it soon subsided, and the patient was discharged on the 10th of April. She was readmitted on the 16th of May. Her general health was better; her abdomen, however, was full of fluid, the posterior wall of the vagina being again prolapsed. Menstruation began on the 22nd, and ceased on the 26th. On the 30th I made an exploratory incision, in the presence of Mr. Henning of Tunbridge Wells and Dr. Campbell of Boston (United States). An incision of three inches was made superficially, but the peritoneal wound was only two inches long. Twenty-seven pints of viscid fluid, which was free in the peritoneal cavity but evidently ovarian, were evacuated. The peritoneal coat of the small intestines was seen to be thick and granular, and it was evident that a large cyst had given way and was extensively adherent. A large group of secondary cysts the size of a child's head was felt to be pretty movable to the right and above the umbilicus; but considering the feeble circulation of the

woman, the risk of haemorrhage, and the evidence of chronic peritonitis, I at once decided to close the wound, and thus reduce the operation to little more than a tapping. The patient made a good recovery, and went home on the 11th of June.

I heard from Mr. Henning in November, in reply to an inquiry. He wrote as follows:—‘There is little or no change since she returned from the hospital; her general health seems about the same. . . . About five weeks after her return I tapped her, and got away rather more than twenty-three pints; since then I think I have done it four times, and on each occasion as nearly as possible about the same quantity. She does not seem to be able to get on for a day beyond the month. . . . Perhaps her greatest suffering is from prolapsus uteri.’

II.—CASES WHERE TAPPING FOLLOWED INCISION.

CASE 1.—*Very large Multiple Cyst; Several Tappings; Prolapsus Uteri, with Vaginal Cystocele and Rectocele; Incision and Tapping; Death from Natural Progress of Disease.*

HAVING no notes of this case, I am indebted to Mr. Brown of Stourport for the brief memoranda which enable me to state that in September, 1860, I went to Stourport to see, in consultation with Mr. Brown, the wife of a tradesman there, who was in the last stage of ovarian disease. She was thirty-eight years of age, and had been tapped several times. The abdomen was enormously distended, and the uterus was completely prolapsed between the thighs. The vagina was also prolapsed, with the bladder in front and the rectum behind. The ovarian cyst was evidently multilocular and extensively adherent. I explained to Mr. Brown and to Mr. Jotham of Kidderminster that ovariotomy was in my opinion quite impracticable, that nothing more than tapping could be done, and that if I made an incision it must not be considered as an attempt to perform ovariotomy, but simply as a means of tapping very completely, and of satisfying those gentlemen, as well as the patient and

her friends, that I was right in my diagnosis. Accordingly I made an incision about four inches long in the usual situation, found the extensive adhesions expected, and did nothing more than thoroughly empty the largest cyst. The patient did not suffer more from this than from an ordinary tapping—indeed, it was thought that the relief was greater—but she died fifteen days afterwards of the natural progress of the disease.

CASE 2.—Adherent Cyst; Once Tapped; Exploratory Incision and Tapping; Temporary Recovery; Death from Rupture of a Cyst into the Peritoneal Cavity.

A MARRIED woman, aged 46 years, was admitted, on the 4th October 1862, to the Samaritan Hospital under my care. She had never been pregnant, but the catamenia had been regular until eighteen months before; since then had only seen occasional clots. Between three and four years before, she was attended by Mr. Chard of Pimlico in a severe attack of ovaritis or pelvi-peritonitis. In November 1861 her friends first noticed increase in size, and since then she had gradually increased. I saw her four months before her admission to hospital; and, as she was suffering greatly from distension, it was arranged that Mr. Chard should tap her, which he did, and removed between four and five quarts of fluid. Her girth was lessened from thirty-seven inches to thirty-two, and the catamenia reappeared; but she soon began to increase again in size. On admission the girth was thirty-eight inches: the ovarian cyst filled the abdomen, extending to within an inch of the ensiform cartilage. The uterus was large, heavy, central, and not moveable, but no portion of the tumour could be felt below the brim of the pelvis. It was agreed, in consultation with Dr. Savage, to commence ovariotomy, but to be prepared for a close connection between the uterus and tumour.

Operation, October 6.—Professors Vanzetti of Padua, Porta of Pavia, Esmarch of Kiel, Neudörfer of Prague, Stabel of Christiania, and many other visitors, were present. I explained to the visitors, before commencing the operation, the nature of

the difficulty which I anticipated. After exposing the cyst by an incision, five inches long, from the umbilicus downwards, and separating a piece of omentum, which adhered both to the cyst and to the parietes, the cyst was tapped, and ten or twelve pints of fluid withdrawn. Then, on passing one hand around the cyst, I found the attachments around the uterus so close and extensive that I would not attempt to separate them. On removing the trochar there was very free bleeding from the wound in the cyst-wall, and it was necessary to tie a large artery and accompanying vein on both sides of the puncture. I cut off the ends of the ligatures short, and turned the knots inwards, so that when detached they might fall into the cavity of the cyst, and escape at the next tapping. The wound in the parietes was then closed by wire sutures.

The patient went on very well for three days, without pain, vomiting, or flatulence. On the fourth day the catamenia appeared. Next day, after a restless night, an eruption of urticaria appeared on the legs and thighs. On October 11 the last of the sutures was removed, the wound being well united. On the 13th she was rather sick and thirsty, but this went off after the bowels had been cleared by an enema. She improved, but was occasionally sick and feverish, and a few drops of pus exuded daily from the tracks of the sutures, but she went home on the 19th. After a few days Mr. Chard wrote to me, saying that she was in 'an unsatisfactory state, neither ill nor well ;' and this continued until, quite suddenly, on October 27, she was seized with sudden and violent pain, vomiting, and depression, attributed to peritonitis from rupture of a cyst, and she died a few hours afterwards.

On examination of the body, by Mr. Chard and Dr. Duncan Smith, the peritoneal cavity was found to be filled by the contents of a large ovarian cyst. It was not clear whether it was the cyst which had been opened, or another; for the site of the trochar puncture could not be found, nor could the ligatures. They had probably escaped with the fluid. The examination was made, under considerable difficulties, in a very small room. It was quite evident, from the difficulty experienced in separating the cyst after death, that it could not have been done during life with any hope of success.

CASE 3.—*Multilocular Ovarian Cyst; Two Tappings; Pelvic Adhesions; Exploratory Incision and Tapping; Peritonitis; Death on the third Day.*

On the 13th of July 1864, in consultation with Dr. Wright, I saw an unmarried lady, twenty-seven years of age, who had recently come to England from Jamaica in order to have ovariotomy performed. She had first observed the tumour in November 1862, and for the next twelve months she had suffered from dysuria, sickness, and pain in the limbs—the last two symptoms being always best marked at the monthly periods. She had been tapped on the 1st of September 1863, and had experienced considerable relief from the operation, two gallons of fluid having been evacuated. A second tapping took place in February 1864, on which occasion five quarts were obtained.

I found the girth at the umbilicus to be $38\frac{1}{2}$ inches, the distance from the ensiform cartilage to the pubic symphysis 17 inches, and from the umbilicus to the ilium on each side $10\frac{1}{2}$ inches. The abdomen contained a little ascitic fluid, and a tumour was felt whose left border was a little to the left of the median line, and extended above the level of the umbilicus, while its right hemisphere lost itself without any definite margin in the right iliac region. The mobility of the tumour was very slight, the abdominal parietes thin, and the tumour itself appeared to contain fluid. On examining *per vaginam*, the uterus was found to be very high, almost out of reach, while the recto-vaginal fossa was completely filled by a portion of the tumour which was firmly wedged into the pelvis. The catamenia came on on the 23rd of July, and lasted until the 28th. Two days later I examined again, and found that the ascitic fluid had very much increased. My diagnosis, written down at the time, was: ‘Ovarian tumour, closely connected with uterus, wedged down into Douglas’s space, probably adhering there, and surrounded by ascitic fluid.’

I considered with Dr. Wright the propriety of tapping by the rectum, but rejected the idea, as the inferior cysts appeared to be very small, and consequently no great relief was to be anticipated, while the operation itself might interfere with subsequent ovariotomy by producing pelvic ad-

hesions. We determined to wait a full week from the disappearance of the catamenia, then to make an incision, evacuate the ascitic fluid, and ascertain the connections of the tumour to the uterus and pelvis. The operation was performed on the 8th of August, in the presence of Dr. Tiranus of Amsterdam, Dr. Brown of Belfast, Dr. Montizambert of Canada, Dr. Ritchie, and Dr. Wright: chloroform was administered by Dr. Parson. The incision was commenced one inch below the umbilicus, and was continued downwards for four inches. Five or six pints of clear ascitic fluid came away, and then the tumour with sprouting cauliflower excrescences came into view. One cyst which was particularly prominent was tapped, and emptied of one pint of fluid. There were no adhesions anteriorly, and but few behind the cyst in its superior half. The connections with the broad ligaments, uterus, bladder, and rectum were, however, far too intimate to allow of ovariotomy being performed, and I therefore sewed up the wound. From the hurried examination I was able to make, I concluded that both ovaries were affected. There was a little parietal haemorrhage, and a slight oozing from the surface of the tumour, but not of any consequence.

There was considerable pain after the operation, and twenty drops of laudanum were thrown into the rectum; the catheter was passed in the evening. The patient passed a bad night, and next morning was restless; the catheter was again passed, but the urine was scanty. In the evening the pulse was 140, and great pain was complained of in the back; the abdomen was painful only on pressure. Thirty-five drops of laudanum were thrown into the rectum. On the morning of the 10th the lumbar pain still continued, but was relieved on pressure; the pulse was 140—very feeble; twenty minims of laudanum were ordered, and brandy as required. At 1 P.M. she was still in great pain: one-fifth of a grain of acetate of morphia was injected under the skin. The effect was almost instantaneous; the patient dozed until four o'clock, waking up at intervals to take stimulants. At 4 P.M. the pulse was still 140, and the pupils were contracted. At 10 P.M. the patient was slightly delirious, and the pulse too fast to be counted. She continued in the same state all night, twenty drops of laudanum being twice thrown up into the rectum, and followed by temporary quiet. She died next morning. The following is Dr. Ritchie's report of

the post-mortem examination, undertaken twelve hours after death:—

‘ Permission was refused to examine any of the cavities with the exception of the abdominal.

‘ The peritoneum contained six to eight pints of bloody serum, the greater portion of it being of course in the pelvic cavity. The peritoneal surface of the abdominal wound was tolerably well united, and adhered feebly to the subjacent tumour. With this exception the tumour was free from adhesions anteriorly; superiorly, there were several adhesions to the omentum and different viscera; they were not, however, very strong. On attempting to remove the tumour it was found to be firmly adherent to the spine and to the pelvis, to the bladder and to the rectum: further, it appeared as if it grew almost directly from the posterior surface of the fundus uteri.

‘ The uterus and tumour were removed by cutting through the bladder, vagina, and rectum. On examining the removed mass the uterus seemed to be healthy; the Fallopian tubes were apparent, but no ovaries were to be seen, and at first the ligaments of the ovaries appeared also to be wanting.

‘ The tumour itself was a hardish oblong mass, about ten inches in breadth and six inches in thickness. Its length, when it was examined, was considerably exceeded by its breadth, but before the evacuation of the cysts it must have been 17 to 18 inches.

‘ The manner in which the mass was attached to the uterus was peculiar. It adhered intimately to it towards the median line, and at each side was connected to it by a round chord about a quarter of an inch in diameter. This chord was about an inch long, and its course was on each side backwards and slightly outwards. A very little dissection showed that these chords were nothing but the ovarian ligaments, and that the tumour itself consequently consisted of both ovaries fused into one. It was with difficulty that the line of demarcation between the two ovaries was found. It appeared as if each gland had enlarged, fallen into Douglas’s space, come into contact with the other and adhered closely to it, and that subsequently cysts belonging to the left ovary had broken into larger ones belonging to the right, and *vice versa*.

‘ The tumour might be structurally described as a multilocular tumour of the ovaries, with dendritic formation; the latter was very abundant. In some places there projected from the surface of the tumour clear vesicles the size of cherries; they had all the appearance of very large Graafian follicles on the point of bursting. Here and there in the walls of these vesicles were found the little sprouts which appear to be the first stage of dendritic formation; these

sprouts sometimes projected into the cavity of the follicle, sometimes projected from its external surface. Again, in one or two instances the follicle was seen to contain fluid in which floated a solid body, apparently restrained and attached to the follicular wall by a pedicle of appreciable length.

' On cutting into such a follicle a body of the size and appearance of a small raspberry was found attached to the wall of the cyst by one or more little processes whose nature could not be satisfactorily determined ; they appeared to be tubular, to be covered with epithelium, and to dilate at irregular intervals into little moniliform projections. In one part of the tumour there were two little transparent cysts in close connection with each other ; one of them was about the size of a pigeon's egg—the other was slightly smaller. On opening the larger one nothing was to be found but an apparently simple cyst, with smooth walls ; on cutting into the other it was found to be studded at intervals with dendritic formations. At some other parts of the tumour the cauliflower growth was found in masses, the size of a walnut ; it was naked, and appeared as if it had forced its way out of the envelope which originally invested it. At one point, one of these masses appeared to be the seat of acute inflammation.

' As an opinion is entertained by some writers that dendritic growth is the first stage of development of secondary cysts, it may perhaps be well to state the conclusions which may be drawn from an examination of the specimen just reported upon :—1st. The dendritic formation may be found in little cysts almost entirely divested of stroma. 2nd. Some cysts may contain this dendritic formation in abundance, while others immediately contiguous may be entirely free from it. 3rd. The dendritic excrescence appears always to be covered with epithelium, and to secrete a thick mucoid fluid. 4th. In a single cyst no larger than a pigeon's egg, many points of dendritic growth may be found, these points being apparently unconnected with each other. 5th. The excrescence sometimes grows inwards and sometimes outwards. 6th. It is liable to inflammation.'

CASE 4.—*Adherent Multilocular Cyst; Three Tappings; Exploratory Incision and Tapping; Seven more Tappings; Death a Year after Incision.*

In August 1860 an unmarried woman, twenty-one years of age, came to me by the advice of Dr. Weber of Finsbury Square. She had a very large ovarian tumour, which she dated from an attack of violent abdominal pain two years before. She had been tapped for the first time in October 1859, and forty-four pints of fluid had been removed. The second tapping was in April 1860, and the quantity of fluid about the same. I wrote to Dr. Weber that his patient had a large multilocular cyst of the right ovary, apparently closely attached to the right side and front of the uterus, and to the abdominal wall. On the 31st of August I saw Dr. Jones of Dalston tap her. He removed forty-four pints of dark viscid fluid, and I then found the uterus to be much more movable than it appeared to be before the cyst was empty. I accordingly advised ovariotomy before another tapping was called for. The patient herself wished for the operation, but Dr. Jones and her friends were opposed to it; and at length it was arranged that I should make an incision, but with the express promise that if close adhesions were found I should do no more.

Accordingly, on the 6th October 1860 (Dr. Gurlt of Berlin having administered chloroform), assisted by Mr. Farwell of Chipping Norton, Mr. Symonds of Oxford, and Dr. Jones, I made an incision, about four inches long, between the umbilicus and pubes, and exposed a cyst which was so firmly adherent that it could not have been separated without dissection. I therefore tapped, removed forty pints of fluid, and closed the wound by harelip pins and iron-wire sutures. She recovered quite as well as after any of the simple tappings. The wound healed by first intention, and the pins were removed in fifty-four hours. Dr. Jones wrote to me: 'I certainly shall for the future be less disinclined or incredulous after witnessing how little disturbance to the constitution followed what I looked upon as the most formidable operation in surgery.' He wrote to me again, giving the following particulars of the tappings

after my operation:—1860: November 19, 47 pints; December 20, 46 pints. 1861: January 22, 43 pints; February 19, 48 pints; April 4, 25 pints; May 31, 19 pints; September 12, 15 pints. She died on the 27th of September 1861, fifteen days after the last tapping, and nearly a year after the incision.

My reflection upon the case was that, supposing I had completed the operation (as I perhaps might have done if I had not been bound not to interfere in case of adhesions), and the patient had died, she would have lost, it is true, a year of the life of a miserable invalid, and have been spared seven tappings; but she might have recovered, for I am quite sure that I have seen equally bad or worse cases recover. There are circumstances, however, in which the surgeon cannot always do what he thinks best. There are patients who are willing to run a moderate risk, but who will not run a very great and immediate risk; and the surgeon must respect the fears as well as the wishes of his patients. He is not playing a game of skill with senseless machines, but is endeavouring to relieve the sufferings and save the lives of human beings, whose affections, interests, and hopes may all weigh either for or against any merely temporising or palliative process, or any serious and immediate risk; and he must do the best he can for the physical welfare, while he does not neglect the mental condition, of any one who may claim his services.

III.—INCISION AND TAPPING WITH SOME SEPARATION OF CYST.

CASE 1.—*Multilocular Ovarian Cyst; Tapping; Pregnancy; Iodine Injected; Exploratory Incision; Death a Week after.*

A MARRIED WOMAN, thirty-seven years of age, was sent to me by Dr. C. Richardson, and was admitted into the Samaritan Hospital on February 19, 1862. She had been married ten years, and had had four children. She was a pale, delicate, anxious-looking woman of dark complexion, and moderately well nourished. She kept a shop in London, but was brought up in Hampshire. Her father died at an early age, and her mother died of

phthisis when about thirty years old. The patient had no cough, and never spat blood: during the previous winter she had had a severe attack of bronchitis, from which she entirely recovered. She menstruated at the age of 15 years, and continued regular once a month, but lasting from three to seven days.

The enlargement came on immediately after the first confinement, nine years before admission; it was a very tedious labour, and instruments were used. For the two or three months after the labour she was laid up in bed suffering great pain in the right iliac region. She continued enlarging there for three years, when Mr. Paget tapped her, by Dr. West's advice, in the eighth month of gestation: the fluid was 'quite clear.' The ensuing labour was natural. Four months after this Mr. Paget again tapped her and injected iodine, after which 'she was very bad indeed, suffering dreadful pain in the belly, when they put on two or three dozen leeches followed by poultices.' She then continued apparently free from disease for three years. At this time, after another labour, she found herself again enlarging, and in eight months after this again became pregnant, went the full time, and had a natural delivery. This was fourteen months before admission; so that she had been gradually enlarging for the three years after iodine was injected, during which time she had two children born alive. Six months before admission she measured forty-seven inches. She suffered a little from incontinence of urine; there was no oedema about the legs, nor any very urgent symptom.

The tumour was unsymmetrical, and varied in hardness at different places. In the left ilio-lumbar region there was fluctuation. The umbilicus was carried down almost to the level of the pubes. The upper part of the mass appeared to move under the skin in inspiration. A hardness was felt to the left of the uterus. The os was small, and rather lower than usual. The girth at the umbilicus was 48 inches, and the distance from the sternum to the pubes 24 inches. The lungs and heart were healthy.

On talking over the case with Dr. Richardson, as well as with the patient and her husband, and taking into consideration the iodine injection, the hard tumour to be felt fixed on the left side of the uterus, and also the fact that nearly all the enlargement of the abdomen was above the umbilicus,

we were disposed to advise the patient to be content with tapping. But she was so incapable of attending in the shop, and felt herself such a burden to her husband, that she was anxious to have something more done. I accordingly agreed to make an exploratory incision, but with the express understanding that it would probably be unsafe to do more. Accordingly, on February 25, I made a small incision, and began to separate the cyst for an inch or two around it. But bleeding was so very free that I did not proceed. I applied several ligatures to the bleeding vessels, tapped the main cyst and one or two others through it, and closed the wound.

AFTER-TREATMENT.—*First day.*: Pulse 100. Vomiting frequent; champagne and ice allayed vomiting in a great measure. There was very little pain in the abdomen.

Second day.—Very flatulent, pulse strong; frequent vomiting persists. Opium and ammonia were given every two hours, and hot poultices applied over the abdomen.

Fourth day.—Pulse 120. Still vomiting. Beef-tea was injected every four hours.

Fifth day.—Appeared to be better.

Sixth day.—No sickness since yesterday, pulse 160; is delirious, no sleep, pulse falling, countenance sunken, breathing shallow and at long intervals. I opened the wound, put in an elastic catheter, and drew off some horribly offensive fluid. She was freely stimulated, but died on the fourth day. I regret that my notes of the post-mortem examination have been lost; but I can state from memory that the lining-membrane of the cysts which had been emptied was extensively inflamed, that lymph was loosely adhering to it in large patches, and that the fluid remaining in the cyst was extremely foetid. There were adhesions of the cyst in the pelvis which would have made ovariotomy, if completed, certainly fatal.

IV.—CASE IN WHICH NEARLY THE WHOLE TUMOUR WAS REMOVED.

Ovarian Tumour ; Twice Tapped ; Ovariotomy ; Portion of Cyst left attached in Pelvis ; Death in Twenty-three Hours.

On the 1st of September 1863 I saw a married lady, thirty-three years of age, in consultation with Mr. Cæsar Hawkins, who pointed out to me that a hard mass in the left iliac region was more firmly fixed there than appeared favourable for easy removal. Another mass was felt beneath the left false-ribs, and the whole abdomen was filled by an ovarian tumour. The patient had been tapped, by Mr. Reece of Cardiff, for the first time in June, when forty-two pints of fluid were removed. There was some emaciation, but the general condition was fairly good. The catamenia were regular; the uterus was central, rather high, but freely movable, and the left side of the vagina was somewhat depressed. She had been married nine years, had had five children, and one abortion in October 1862: the last child was born in February 1861. During the six latter months of this pregnancy dysuria was constant, and three days after the birth of the child Mr. Reece discovered the tumour. Increase was slow at first; but in April 1862 she again became pregnant, the tumour increased more rapidly, the uterus was prolapsed, and the child was born prematurely in October. She remained very large, and tapping was deferred as long as possible, but in June 1863 it could be no longer delayed.

The result of a visit to Dr. Ferguson and of my consultation with Mr. Cæsar Hawkins was that she was advised to return to the country, endeavour to improve the general health, have one or two more tappings if necessary, and then come to town for ovariotomy. On November 28 Mr. Reece wrote to say that the cyst had 'rapidly refilled, and is now almost insupportable. She has no rest, but constant pain, more particularly on the right side and under the right shoulderblade. Her general health and spirits have been good; but the latter have been depressed latterly, as broken rest and pain have become more frequent.' In reply, I advised tapping to give temporary relief, and then to consider the question of ovariotomy again.

On the 4th of December Mr. Reece wrote and said that he had tapped on the day before, and removed eighteen quarts of fluid which contained both blood and pus. She was becoming so emaciated and feeble that Mr. Reece then feared she would not be strong enough to bear the journey to town; but he wrote again, on December 26, to say that she had greatly improved since the tapping, and would come to town. She did so on the 4th of January 1864, and it was arranged that I should operate on the 9th; but a little uterine haemorrhage came on after a warm bath on the 7th, and continued till the 9th; so that the operation was deferred till the 11th, when I performed it, with the assistance of Dr. Pagenkopff of Moscow, Dr. Ritchie, and Dr. Savage—chloroform being given by Dr. Parson.

An incision seven inches long, in the usual situation, exposed a cyst which adhered to the abdominal wall so intimately that it was opened and emptied before any attempt was made to separate it. Some groups of secondary cysts at the upper portion of the tumour (being non-adherent) served as a guide, otherwise it would have been almost impossible to find the line of demarcation between the peritoneum and the thin adherent cyst. But by first drawing out these loose groups of cysts the upper part of the large adherent cyst was separated and drawn out with a piece of adhering omentum, which was separated and did not bleed. The connection of the tumour to the right side of the uterus was very close. The connecting tissue was held temporarily by a clamp, and was then tied with silk; one end of the ligature being cut off short, and the other left passing out through the wound. A portion of the cyst on the left side adhered so closely to the left iliac fossa, to the left ureter and iliac vessels, and to the colon, extending forward to the bladder, that I followed the practice recommended by Dr. Clay in cases of very close adhesions, and cut away all the separable portion of the cyst, leaving that part which could not be safely separated adhering to the abdominal wall and brim of the pelvis. One vessel in the divided edge of the cyst bled; this was tied. One end of the ligature was kept out, and was tied with that on the pedicle over a pad of lint, which was fixed over the lower part of the wound. The left ovary was not enlarged. The wound was closed by deep and superficial silk sutures.

Reaction came on moderately well after the operation, with-

out pain, and with very little sickness. The aspect was rather depressed, but the voice was good, and she was cheerful. She became rather restless during the night, and a grain of opium was given twelve hours after operation. The urine was very scanty, only two to three ounces having passed in eighteen hours, although there had not been much perspiration. There was no tympanites, but vomiting became frequent in the forenoon; and although she was not in pain, she said she was 'very tired,' and the pulse became more and more rapid and feeble. Champagne was given freely, brandy and beef-tea were injected into the rectum; but she continued to sink, and died twenty-three hours after operation. No post-mortem examination was permitted.

The following is Dr. Wilson Fox's report on the tumour:—

'The tumour is much broken up, but appears to have consisted of (*A*) one large cyst, considerably exceeding an adult's head in size, and containing, in various parts of its wall (*B*) large groups of secondary cysts, varying in size from a small turnip to an orange, and in certain places (*C*) peculiar semi-solid masses, sometimes attaining the size of an orange.

'(*A*) The outer surface is not generally thickened. In some parts the walls of this large cyst are not in many places more than one-twelfth of an inch in thickness. In some parts the natural appearance of the peritoneum is still maintained, but this is the case only in comparatively limited patches, the greater part being covered with a thin separable film of exudation matter, stained of a bright-red hue by punctiform haemorrhage; indeed, the greater part of the outer wall of this large cyst presents the appearance of a stomach in a state of capillary apoplexy. This character is not met with in the peritoneum covering those parts of the cyst where groups of secondary cysts are found in the interior. In these latter situations the wall is more or less regularly thickened both by exudation and by granulations, and by the rupture on the external surface of small secondary cysts imbedded in the wall (which rarely exceed the size of a pea), the villous growths, from the interior of which protrude on the external surface. Numerous very large veins cross the peritoneal surface in all directions; it is everywhere very finely injected. Portions of the peritoneal surface are mottled with yellow, in patches of from one to two inches in diameter, and elevated above the surface. These, on examination, are found to be patches of granulations, mingled with exudation-matter which has undergone fatty degeneration. The lining-membrane of the large cyst is found to be covered, in some parts, with a single layer of polygonal

epithelial cells; in others the epithelium is stratified, and has assumed a columnar character; while in other parts groups of villi and clustered glands are found, and among these single and compound cystoid masses of all sizes and forms occur.

'(B) Of the portion consisting of compound cysts, which form masses of the size of a large turnip, the cysts are highly complicated and multilocular; many of them contain in their interior secondary masses of glands and villi, similar to those described as lining the interior of the parent cyst. In some parts the septa were perfect, in others they were broken down, and the cysts intercommunicated in a very complex manner with one another. In some parts large masses of these cysts had undergone fatty degeneration, giving rise to ragged-looking masses of a dirty yellow-ochre colour and of a cheesy consistence.

'(C) The larger semi-solid masses are found to be almost entirely composed of compressed masses of glands, villi, and small cysts. These are very singular in form, sometimes hanging by pedicles, sometimes seated on broad bases in the wall of the parent tumour.'

This is the only case in which I have removed any portion of an ovarian tumour but have been obliged to leave any considerable part of it. Small patches of adhering cyst were left in Cases lxi. and lxxxvi.; but the portion in this case was so large that it would not be fair to include the case among those in which ovariotomy was completed.

CASES OF FIBROID AND FIBRO-CYSTIC TUMOURS OF THE UTERUS.

THE following cases are recorded here because the operations by which the tumours were exposed or removed very closely resemble the operations for the removal of discovered ovaries ; and because, in some of the cases, the tumours very closely resembled ovarian tumours. In the first case, some doubt was felt and explained before the operation was recommended. In the second case, an accurate diagnosis was made, and verified by an exploratory incision. In the third case, it was not until after the operation was concluded that the true nature of the tumour was ascertained. In the fourth case, the whole operation may be described as exploratory or tentative ; but in the fifth a very accurate diagnosis was made, and verified by the result of the operation.

CASE 1.—*Solid Abdominal Tumour; Gastrotomy; Part of Uterus and both Ovaries removed; Death four Days afterwards.*

ON the 9th of September, 1861, I was consulted by a married lady from Liverpool, respecting an abdominal tumour which gave her the appearance of being quite at the end of pregnancy. It appeared to be quite solid. The girth at the umbilicus was 41 inches, the measurement from pubes to umbilicus was 10 inches, and from umbilicus to sternum 9 inches. The tumour

moved freely beneath the abdominal wall. Professor Pirrie, of Aberdeen, called on me during the first visit of this patient, and saw her with me. She told us that she was thirty-three years old, had been married fourteen years, but had never been pregnant, and had never menstruated before her marriage, nor until ten years after it. Yet for the last four years she had been tolerably regular, the quantity and character of the discharge being normal. For about a week before each period she was accustomed to suffer pain in the back which lasted during the flow, but after it ceased she was always decidedly better for two or three weeks. She remarked that she was getting larger about the time menstruation commenced, but attention was not called to the abdomen for another year. Then she began to lose flesh and colour, and Dr. Battye of Liverpool saw her. For twelve or eighteen months increase was slow. In January 1861 she became seriously ill, and in May went to Dr. Clay of Manchester, who told her that she had ovarian disease in an advanced stage, but advised delay on account of the solidity of the tumour. I also thought the tumour was ovarian, but its extreme solidity led me to explain to the patient that a large incision would be necessary for its removal, and that the operation would therefore be additionally hazardous. Professor Pirrie concurred in this opinion. She returned to Liverpool, but suffered so much that she returned to town in October determined to have the tumour removed. I then became more doubtful as to its nature; but even more convinced than before from its mobility that it could be taken away, and I operated on the 14th of October, 1861. Mr. Cooke of Charlwood Street gave chloroform, and I was assisted by Mr. Henry Smith and Dr. Rogers. By an incision ten inches long, from two inches above the umbilicus, a solid non-adherent tumour was exposed and turned out without difficulty. It proved to be a fibroid outgrowth from the fundus of the uterus, and I passed the chain of an *écraseur* around a sort of stem just where the body of the uterus becomes continuous with the cervix. As the chain was tightened the shaft of the instrument bent, and it became useless. I therefore substituted for it a very large clamp, and cut the tumour away. Some oozing of blood from the cut surface of the stump led to a further tightening of the clamp, when the instrument broke, and we had copious haemorrhage from very large vessels.

But they were all tied, and the wound was closed by pins and sutures, the ligatures being brought out at the lower angle.

The tumour was quite solid, and weighed twenty-seven pounds. It consisted of the fundus uteri greatly enlarged, with both Fallopian tubes, and with both ovaries about twice the natural size and containing clots, adhering one on each side of the uterus. The growth of the fundus while the cervix remained of the natural size had led to a sharp line of demarcation, or deep sulcus, in the body of the uterus. It was here that the separation was effected, so that the os and cervix felt perfectly normal after the operation. The tumour was preserved for some time at the Samaritan Hospital, but was unfortunately destroyed by the dispenser in mistake for another tumour.

The patient rallied tolerably well after the operation, and became fairly comfortable in the afternoon after two opiate enemas, and passed a pretty good night.

On the first day after operation she was pretty well all day; warm and perspiring; the pulse from 110 to 120; some tympanites but no vomiting; and having a natural quantity of urine removed by catheter. Towards evening the pulse became feebler, and there was some dyspnoea with somnolence, although no opium had been given since the morning. Beef-tea was injected into the rectum. On the second day she was said to have had a good night, sleeping a good deal; but the pulse was 130 and occasionally intermittent. She had also vomited two or three times during the night. Her aspect was good, the skin comfortably warm, and she had no pain, but complained of great weakness. In this state she continued, most assiduously supported by Mr. Cooke, but continuing to get weaker and weaker until she died four days after the operation. No post-mortem examination was permitted.

CASE 2.—*Fibroid Tumour of Uterus; Exploratory Incision; Death from Natural Progress of Disease Sixteen Months after.*

On the 30th of March 1863, a single woman, thirty-three years of age, by occupation a laundress, was admitted into the Samaritan Hospital, having been sent to me by Dr. Shorthouse of Carshalton. She was not emaciated; her digestive organs were in good order, and her chest sound. There were no vesical symptoms. Her girth at the umbilical level was 40 inches, the distance from the ensiform cartilage to the umbilicus 9 inches, and from the umbilicus to the pubic symphysis $10\frac{1}{2}$ inches. A hard nodulated tumour was felt occupying the abdomen. It left the right iliac region free, and extended high up into the left hypochondrium. The tumour itself did not fluctuate, but a distinct wave of ascitic fluid was to be felt on its surface. The tumour was evidently not adherent to the abdominal wall; it was elastic, and in its right hemisphere a loud bellows-murmur was to be heard. There was no crepitus. The catamenia appeared regularly every four weeks; the discharge was neither excessive nor diminished. The uterus could not be felt; it had evidently been pulled out of reach. There was no history of hereditary disease. The patient lived near Epsom, where she pursued her avocation. The first symptom of illness had been back-ache, and an enlargement in the right iliac region. This enlargement had increased rapidly until it had attained the size mentioned above.

In order to satisfy the doubts of others rather than any doubt of my own, I made an exploratory incision, on the 7th of April 1863. The patient having been narcotized by chloroform, I made a short incision in the linea alba. There were no anterior adhesions, and a muscular-looking tumour presented itself. As it felt soft and very elastic, I passed a long thin trochar and canula into it, and tried to get away some fluid by means of an exhausting syringe; but as none could be obtained I closed the wound. On the third day after the operation the menses appeared, the patient being tolerably comfortable. On the tenth day she left the hospital in moderately good health. On the 7th of March 1864, the patient wrote to say that she was exhausted by constant

discharge from the womb, and that her legs were much swollen. She was treated by Dr. Barratt, of Ewell, and I heard that she died on the 26th of August 1864, sixteen months after my incision. Her mother wrote to tell me that a post-mortem examination was made, that the tumour weighed twenty-five pounds, and that there were thirty-four pints of fluid around it.

CASE 3.—*Abdominal Cystic Tumour supposed to be Ovarian; Removal; Death; Tumour proved to be a Fibro-Cystic Outgrowth from the Uterus.*

ON the 18th of April 1863 I saw an unmarried lady, fifty-three years of age. She was considerably emaciated, with a hectic flush upon her cheeks; the temperature of the skin was normal. There was no oedema nor varicosity about the legs. The digestive organs were in good order—the nervous system not much implicated; and although the patient complained of being subject to cough, there was none at the time of examination, nor were there any physical signs which might have led to a supposition of tubercle. The pulse was 96, full and soft, and there was frequent desire to pass water. The girth at the umbilical level was $45\frac{1}{2}$ inches, the distance from the umbilicus to the ensiform cartilage $11\frac{1}{2}$ inches, to the pubic symphysis 13 inches, and to each ilium $14\frac{1}{2}$ inches. The whole abdomen was occupied by a tumour with irregular margins. It fluctuated obscurely at some points, distinctly at others, especially above, and on inspiration the abdominal parietes seemed to move over its surface. There was no arterial impulse nor bruit. The tumour was a little painful on pressure low down on the right side. The catamenia commenced at the age of seventeen, were suddenly suppressed at the age of twenty-five, and did not reappear for ten years, after which each period was accompanied with great pain and but slight discharge. The last period was six weeks before the examination. I found the uterus far back and rather high; its mobility was not very free. The cervix was full and soft, the os open; the vaginal wall was slightly depressed, both between the uterus and the bladder and between the uterus and the rectum.

There was no history of hereditary disease. In 1853 the patient observed that she was increasing in girth, and about the same time she was annoyed with pain, which was at first most severe in the left groin, but subsequently travelled round to the right side. The swelling was always a little more marked during the catamenial periods. Becoming alarmed, she put herself under the care of Mr. Propert, who discovered the tumour six months after the appearance of the symptoms. The tumour was at first small, and it increased slowly, the symptoms being proportionate to its increase in size. During 1861 and 1862, however, the increase in size had been more rapid.

Mr. Ellis of Sloane Street treated medically for some time, but as the ill-effects of the tumour became increasingly urgent, he advised the patient to see me with a view to operation. The catamenia came on on the 23rd of April ; they ceased on the 26th ; and, after further consultation with Mr. Ellis and Mr. King Pierce (who was related to the patient), I operated on the 30th, with the assistance of Mr. King Pierce, Mr. R. Ellis, and Dr. Alex. Squire—chloroform being administered by Dr. Parson.

An incision was made and enlarged gradually till it reached from one inch above to eight inches below the umbilicus. There were extensive parietal adhesions, which were, however, very easily broken down ; some long bands of thickened omentum were also attached to the tumour, but the closest adhesion was to the right iliac fossa. On account of this close adhesion no proper pedicle could be defined. A thick band reached from the right side of the uterus to the tumour ; which was, moreover, embraced by a wide expansion of broad ligament, which became blended with the adhesions to the right iliac fossa. I transfixed below the Fallopian tube, tied and cut away the tumour. I then tied three large arteries in the fold of the broad ligament, and two on the surface of the stump. The left ovary could not be accurately defined. Two small fibroid outgrowths from the uterus were cut away ; one of them was the size of a filbert, the other of two walnuts. They bled a little at first, but ceased on the vessels being compressed. The haemorrhage during the operation, though rather free, was by no means alarming ; perhaps six or eight ounces of clot may have been taken from the abdominal cavity. I closed the wound with

six deep and several superficial sutures, and brought out the ends of the ligatures at the inferior angle of the wound.

The patient never rallied, and died in three hours. The post-mortem examination showed that the peritoneum was much thickened, in some parts almost cartilaginous—a fact which had been remarked at the operation. The wound was well brought together; about two ounces of clot were found in the back part of the peritoneal cavity. From three to four ounces of reddish serum without clot were found in the pelvis. The tumour removed was a large fibro-cystic outgrowth from the right side of the fundus of the uterus. The solid fibroid mass weighed 16 lbs. 5 oz., and the large cyst had held 26 pints of fluid, and 4 lbs. of lumpy masses of decomposed fibrine. The right ovary, slightly enlarged, adhered to the outer surface of the tumour. The uterus itself was about twice the natural size. Two spots, where the peritoneum had been removed from the back of the fundus, marked where the two small outgrowths had been taken away. The left ovary, slightly enlarged, retained its natural connection with the uterus.

CASE 4.—*Fibro-Cystic Tumour of the Uterus; Ascites; Gastro-tomy; Death.*

ON the 20th of June 1864 I arrived in Dublin, having been requested by Dr. Stokes to come prepared to operate in a case which he and Dr. Beatty considered did not admit of delay. I saw the patient at once with Dr. Stokes. She was a single lady, forty-five years of age, extremely emaciated but in excellent spirits. Dr. Stokes had detected two apparently solid tumours in the abdomen ten years before. One appeared to be central, and a little above the umbilicus; the other to the right side, under the anterior superior spinous process of the ilium. They were then each about the size of a goose egg. Increase had been slow at first, and no alteration in dress had been called for till a year ago; during the past two months increase had been very rapid.¹

The abdomen was enormously distended, measuring fifty-six

inches in girth at the level of the umbilicus, nineteen inches from the ensiform cartilage to the umbilicus, sixteen from umbilicus to symphysis pubis, twenty-three from the right anterior superior spine of the ilium to the umbilicus, and nineteen inches from the same process on the left side to the umbilicus. The greater prominence on the right side was very visible ; the skin covering the umbilicus was distended by fluid simulating an umbilical hernia. Above the umbilicus fluctuation was very evident ; but the fluid was evidently free in the peritoneal cavity, and covered a solid or semi-solid tumour which could be felt on displacing the fluid by deep pressure. Some of the superficial abdominal veins were dilated, but were not varicose ; the fluctuation below the umbilicus was very indistinct, and the tumour appeared to be adherent. Examination *per vaginam* showed that the uterus was high but central, the os virginal, the cervix absorbed or atrophied ; and behind it a small portion of the tumour could be felt through the vaginal wall. The uterine sound passed to three and a half inches. Menstruation had passed off quite naturally early in June, but there had been no appearance for the previous six months ; up to that time she had been quite regular. There was no history either of excess or deficiency. The left leg was slightly oedematous and she had occasionally felt it weak and painful. She had never been tapped.

The diagnosis which I made and wrote down was : ‘A quantity of fluid free in the peritoneal cavity above the umbilicus—ascitic or ovarian ? Below the umbilicus a large attached multilocular cyst.’ In consultation with Drs. Beatty, Gordon, and Stokes, it was agreed that I should tap above the umbilicus, and if the tumour appeared to be firmly adherent do no more ; but if the tumour was not attached, to remove it. Accordingly, Mr. Macnamara having administered chloroform, and with the kind and able assistance of Drs. Beatty and Gordon, I tapped, with a very long trochar, above the umbilicus, and removed about thirty pints of clear rather viscid fluid. When all the fluid had escaped, the canula (which is fourteen inches long) was passed in all directions between the surface of the tumour and the abdominal wall, proving that there were no adhesions within reach. Fluctuation was also detected in different parts of the tumour. After removing the canula and closing the small opening, I made an incision below the umbilicus about six

inches long, and exposed what appeared to be two ovarian cysts separated by a deep fissure. I tapped that on the left side, and about ten pints of bloody serum escaped; two or three pints more of similar red fluid escaped after puncturing again within the cyst first opened, by pushing on the trochar without removing the canula. The tumour was then withdrawn, and found to have two attachments—one above to the tumour on the right side, and the other below to the uterus. The former attachment was broken through, and two bleeding vessels on the torn surface of the right tumour were secured by silk ligatures. The left broad ligament was then transfixated, tied in two halves with strong silk, and the tumour was cut away. It then became a question what should be done with the tumour on the right side; and, looking to its great size, solidity, evident close connection with the transverse colon and with the omentum, which contained some enormously distended veins, it was decided, with the full concurrence of Drs. Beatty and Gordon and Mr. Macnamara, that no attempt to remove this tumour should be made, especially as the patient was becoming very feeble. The wound was accordingly closed, and the patient placed in bed. She was extremely feeble, and brandy was administered freely; but she never rallied nor recovered consciousness, continued to sink, and died about three hours after she began to take chloroform.

The following description of the tumour which I removed is the report of Dr. Ritchie, who examined it with great care twenty-four hours after removal:—

'The tumour is an irregularly flattened oval, weighing about 20 lbs., and composed almost entirely of solid matter. Its greatest length is 18 inches; breadth, 12 inches; thickness, 7·8 inches. For purposes of description it may be divided into an anterior and posterior surface, a right and left side, and an upper and lower extremity; but it must be remembered that its position before removal was oblique, the posterior surface being turned considerably to the left side of the body.

'The posterior surface is comparatively smooth and flat, of a dull gray colour, marked here and there with crimson traces of inflammation. It is entirely invested with peritoneum, and through that layer shines a fibrous tissue, which in the centre of the tumour forms a dense network, but towards the superior extremity is arranged in open meshes, some of them one inch in diameter. Inferiorly the surface loses the glistening appearance which its upper portion presents, and is of that dull gray colour so characteristic of the presence of adipose tissue.

' The general shape of the posterior surface is that of the body of a guitar, and from the narrow constricted part hangs, on each side, a semi-detached tumour ; that on the right side being about the size of a small orange—that on the left four or five times as large and more irregular in shape. Immediately above the irregular tumour is to be found the pavillion of the Fallopian tube (left), which runs downwards a distance of $6\frac{1}{2}$ inches, and is lost on the surface of the tumour—at least it was impossible to follow it farther. Just before breaking up into its terminal fimbriæ the Fallopian tube dilates into a transparent cyst the size of a small bean ; this cyst does not communicate with nor obstruct the canal of the tube.

' The anterior surface, which looks also somewhat to the right, is much more irregular than the posterior, and is covered with several layers of false membrane, which are deeply injected, and in some places quite black. Inferiorly, and a little to the left, is the spot at which the tumour was amputated—an irregular surface, consisting of two circular facets, about $3\frac{1}{2}$ inches in diameter, joined by a bridge two inches long by $\frac{3}{4}$ broad. Below, and to the outer side of the cut surface, is found the left ovarian ligament, about three inches long, and terminating, without any well-marked line of separation, in an ovary, which, although flattened and drawn out, appears normal, and contains a corpus luteum. The superior extremity of the tumour is convex, and consists of a large cyst whose contents have been evacuated ; the inferior extremity is rounded off, and presents nothing worthy of remark.

' Structure of the Tumour.—On making a longitudinal section the tumour was found to consist of fibrous tissue, arranged in different fashions and in different states of perfection, and split up by little cavities of various sizes, containing serum more or less transparent. In some places the fibrous tissue was arranged in concentric lamellæ, and it was then possible to isolate, by the fingers alone, little masses varying in size from that of a nut to that of an apple, and resembling much the round fibroids of the uterus. These little masses, however, were never removed entirely whole ; their connection with the surrounding tissue was much more intimate than it is usually in an uterine fibroid. In other places the fibres were interwoven without definite arrangement. towards the inferior extremity they seemed to be in process of fatty degeneration, and in several places little calcareous masses, without any well-defined structure, were discovered. Just at the inferior extremity the surface was rendered irregular by some little hard nodules, which, on being cut into, presented the appearance of tubercle. The solid tissue was everywhere permeated by large bloodvessels, and in several places blood-cysts, the size of a barleycorn to that of a pea, were demonstrated. The largest cyst was at the superior extremity ; it was about the size of an adult head, and its internal surface presented traces

of having primarily been divided into several compartments. The thinnest part of the cyst-wall was $\frac{1}{4}$ inch; its lining was smooth and glistening, having much the appearance of a serous layer. At one point there projected into the cavity a yellow nodule the size of a bean, and spherical in shape. With a little trouble this nodule was taken away entire, and found to consist of a smooth investing fibrous capsule, and contents which were partly granular, partly oil-globules. From the large cyst a little passage, through which might be passed a common lead-pencil, led down into the little tumour which was described as attached to the right side of the tumour. The corresponding one on the opposite side was also hollowed, but had no communication with the large cyst. The cysts contained in the solid substance of the tumour were of various sizes, from a mere trace to several inches in length; their lining-membrane could not be separated from the surrounding tissue; some of them communicated together by means of slender tubules.'

The body was examined after death by Dr. Gordon, and the following is a description of the tumour which we did not attempt to remove :—

' It consisted partly of a cyst and partly of a fibro-cystic tumour. The cyst was spherical, about a foot in diameter, empty (its contents having escaped through a smooth-margined opening an inch in length), and it adhered to the anterior abdominal wall; with this exception, the whole surface of the cyst was free and unattached, except inferiorly. The walls were extremely thin superiorly, so that at first sight they appeared to consist exclusively of peritoneum, marked, however, by the course of large vessels. Inferiorly the cyst-wall was capable of being split up into three layers—the outer one serous, the middle one apparently muscular, and the internal one epithelialized. A little to the right, and inferiorly, the tumour was attached by a pedicle $3\frac{1}{2}$ inches long, 2 inches broad, and $\frac{3}{4}$ inch thick.

' This pedicle was covered with a serous layer, and consisted of fibrous tissue, hollowed out here and there into little cysts, similar to those described as having been seen in the tumour removed by operation. The extremity of the pedicle had been connected with the anterior portion of the solid tumour, but was detached by the weight of the latter when being taken out of the body. The cyst, at the operation, was seen collapsed, and lay immediately above the transverse colon, in front of which the pedicle descended. The inferior border of the cyst was further attached to the transverse colon by strong adhesions, in which were found several large bloodvessels and some lymphatic glands—two of the latter being enlarged and infiltrated with tubercle.

'A part of the omentum was attached to the colon, and in it the veins were enormously distended and much convoluted. They were full of air, and resembled rather the small intestines of a fowl or of a rabbit than the bloodvessels of a human being.

'On examining the uterus and the enormous fibro-cystic tumour which was springing from its fundus, the vaginal portion of the uterus was found to be altogether atrophied—the vagina terminating in a virginal os uteri, and the sensation conveyed to the finger was that of a very light movable uterus. On looking for the body of womb, its place was found to be occupied by a long flexible tube, crackling under pressure, like thick parchment. From the upper (somewhat dilated) extremity of this tube sprang the right Fallopian tube and the right ovarian ligament; this was in normal relation to the right ovary, which also appeared healthy. The vagina and the elongated uterus were now slit open, and the length of the entire cavity of the womb was found to be 7 inches, that of the cervix alone $3\frac{3}{4}$ inches. The greatest width of the uterine cavity was close to the fundus, but did not exceed $\frac{3}{4}$ inch. The left Fallopian tube had been cut through half an inch from its uterine extremity.

'The walls of the uterus, like the Fallopian tube, were of normal thickness. From the fundus sprang a fibrous column, 5 inches long, 3 inches deep, and $1\frac{1}{2}$ inch broad, encircled at its upper extremity by a ligature. The left side of this fibrous column presented a roughly cut surface, 5 inches long and 3 inches broad or deep, being the point at which the tumour first described had been cut through at the operation. The tumour which was left was an enormous mass, 18 inches in length 16 inches in breadth, and near its centre fully 7 inches thick. The posterior surface was of a greenish colour, from commencing decomposition, and its smooth external glistening tunic here and there raised by rounded projections of all sizes, from the head of a pin to that of a child. Some of these projections evidently contained fluids, others were hard, and their fibrous nature sufficiently apparent without the aid of dissection.

'Here and there were traces of adhesions. On the anterior surface the walls were intensely congested, with occasional rounded projections. The lower two-thirds of the tumour were, however, separated by a deep sulcus from its upper third, so that the two bodies appeared distinctly separate. The upper tumour was 11 inches broad by 6 inches long, and 6 inches in depth—its general shape strongly suggestive of an enlarged liver. In structure the tumour was precisely similar to the one removed by operation, and described by Dr. Ritchie.'

One of the soundest objections raised to the admission of ovariotomy among those surgical operations which have been

generally looked upon as ‘legitimate’—(or, in other words, which it is the duty of the surgeon to perform if he is called upon to try and save the life of a patient when threatened by a dangerous disease)—is the difficulty of diagnosis. And the supporters of the operation, while they assert that many of the mistakes which have brought discredit on surgery ought not to be repeated at the present day—and can only be repeated by the ignorant or the careless—admit that, in some rare cases, it must be almost impossible to arrive at a perfectly correct diagnosis before the commencement of the operation. Still, advancing knowledge makes such exceptions rarer and rarer; and it seems probable that even such cases as that described will soon be eliminated from the list of those in which an exploratory incision must be made, or the operation of ovariotomy commenced, before the surgeon can be positively sure as to the precise nature of the growth with which he has to deal.

Given a large semi-solid tumour, fluctuating in some parts, containing cysts which hold upwards of twenty pints of fluid, moving beneath the abdominal wall—the uterus being movable, and not enlarged so far as measurement by the sound can detect—no sound or arterial impulse to be heard which is not often heard in ovarian tumours, and no history of haemorrhage leading to a suspicion of uterine disease—and it will be admitted that these characters of the two fibro-cystic tumours of the uterus which I removed, so closely resemble those of semi-solid ovarian tumours that diagnosis must be very uncertain. Even after an exploratory incision I know of nothing but a rather darker—less pearly blue—aspect of the tumour which would put the surgeon on his guard. In any doubtful case it would be well to tap the largest cyst and examine the fluid. In both my cases this was peculiar—not the viscid mucoid fluid of multilocular ovarian cysts, but a thin serum, with 5, 10, or 15 per cent. of blood intimately mixed with it, and not separating until after standing for some hours. In this way I have satisfied myself, in at least four cases, that tumours which others considered to be ovarian were really fibro-cystic uterine growths. If the operation has been commenced, and the dark aspect of the tumour is observed, it would certainly be advisable not to do more than tap one or more of the largest cysts before examining attentively the connections between the uterus and the tumour. If these

should prove to be very intimate, it will be the unpleasant duty of the surgeon to desist from any attempt to do more, and to close the wound as soon as possible: at least the two cases in which I made the attempt to do more have convinced me that I tried to do more than can be done with a fair and reasonable hope of saving life.

CASE 5.—*Fibroid Tumour of Uterus; Gastro-Hysterotomy; Enucleation of Tumour; Death.*

AN unmarried lady, thirty-five years of age, who had been employed as a governess in Italy, was sent to me by Dr. Sim of Naples, and was admitted under my care to the Samaritan Hospital in December 1862. She was suffering very much from a large fibroid tumour of the uterus, which had been noticed for several years, and its growth had been accompanied by profuse menorrhagia; but it had only attained a very large size during the last four years. Since then her life had been repeatedly in danger from profuse haemorrhage, and she had become quite unable to earn her living as a governess. A very accurate diagnosis was made, and I strongly advised the patient to try and obtain admission to the Hospital for Incurables; but she was most anxious to avoid such an end, and careful consultations were held as to the possibility of removing the tumour, and the best means of doing so. The impracticability, or very great danger, of removal by the vagina being evident, it was thought that removal by a sort of Cæsarian section offered the best hope of a good result. In undertaking the operation I knew perfectly well that the risk must be great, and both Dr. Stewart of the Middlesex Hospital (who was an old friend of the lady) and I fully explained to her that the risk was an ‘unknown risk;’ but she begged to run any risk in hope of a cure. Accordingly, on the 12th of January 1863 I laid open the abdomen, as in ovariotomy, and pressed the uterus and tumour outwards. I then cut through the uterine wall, and detached the tumour by my hand from its connection. The uterus at once contracted. There was very free bleeding at first, but it soon stopped. Two ligatures only were used,

and the opening in the uterine wall was closed by the uninterrupted suture. The abdominal wound was closed in the usual manner. The patient never rallied, and died four hours after operation, death being attributable partly to loss of blood, partly to shock, and partly to the effects of chloroform. There was no bleeding after the close of the operation, and no blood was found in the uterine sac, nor in the peritoneal cavity, after death.

The tumour weighed seventeen pounds, after one or two pints of serous fluid had drained off from imperfect cysts or cavities observed in the interstices of the fibrous layers of which the tumour was composed. The connection between the tumour and the uterine parietes was not very intimate, so that after dividing the parietes it was detached without much difficulty. In some places a very thin stratum of uterine tissue and the peritoneum were the sole coverings of the tumour. It had formed in the right half of the body and fundus of the uterus, and had been accompanied by hypertrophy of the uterine tissue on the left side of the body, and by atrophy of the cervix. I showed the tumour, and the uterus from which it had been removed, at the Pathological Society, and explained that I brought the case forward, not as an example but as a warning, as I thought it would only be under most unusual circumstances that I would again remove an interstitial fibrous tumour of the uterus; a peritoneal outgrowth, or an ingrowth towards the uterine cavity and vagina, offering, in my opinion, far more probability of successful removal than an interstitial tumour.

SUGGESTIONS FOR TAKING NOTES OF CASES.

DURING the last two or three years I have kept a separate book for every patient who has consulted me on account of ovarian disease; and I have found this plan to be so very convenient that I append the form of case or note-book which I have adopted—first noting all that one can see for oneself, and then anything that can be gathered from the patient. This makes the first consultation a long one; but it saves a great deal of time and thought at subsequent visits. So much valuable information might be gained if other surgeons would keep notes of ovarian disease in the same manner, that I have had separate copies of this sheet printed on writing-paper with sufficient space for notes, and have arranged that the note-books can be obtained from Messrs. Churchill.

NUMBER.

DATE OF FIRST VISIT.

NAME.

AGE.

RESIDENCE.

OCCUPATION.

MARRIED, SINGLE, OR WIDOW.

IF MARRIED, WHEN?

CHILDREN—

Age of eldest.

Age of youngest.

ABORTIONS.

USUAL MEDICAL ATTENDANT.

STATE AT FIRST VISIT.**GENERAL APPEARANCE.****COMPLEXION.****EMACIATION.****HABITS OF LIFE.****SURFACE OF BODY.**

Temperature of skin and extremities.

Perspiration.

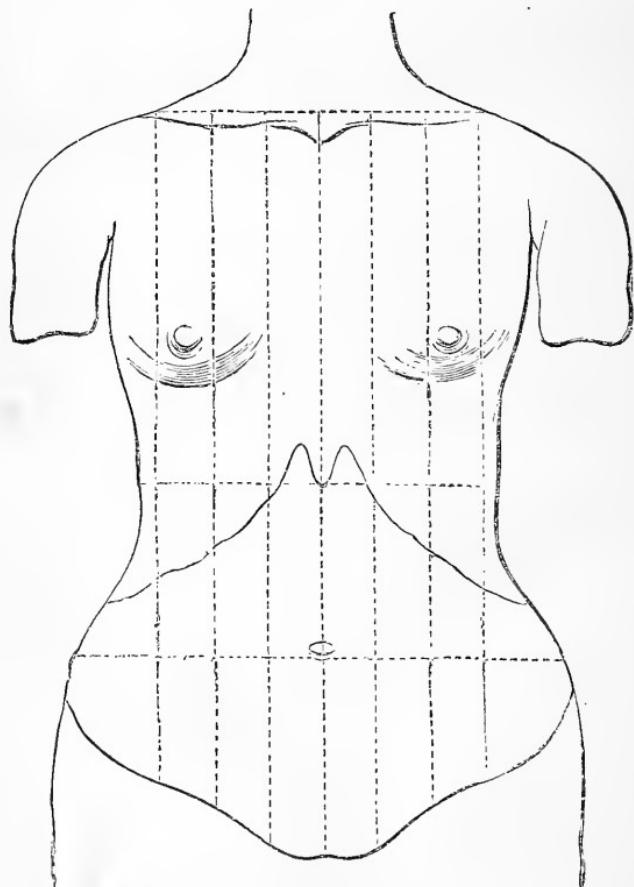
Glandular swellings.

Eruptions.

Ulcers.

Varicose veins.

Œdema.

MAMMARY AREOLÆ.**DIAGRAM FOR OUTLINES OF TUMOUR, LIVER, AND SPLEEN.**

MEASUREMENTS.

1. Girth at umbilical level.
2. From ensiform cartilage to umbilicus.
3. From umbilicus to symphysis pubis.
4. From right ant. sup. sp. of ilium to umbilicus.
5. From left ditto to umbilicus.

Mobility of tumour.

Evidence of adhesions.

Thickness of parietes.

Lineæ albicantes.

Dilated veins.

Fluctuation.

Impulse.

Crepitus.

Tenderness.

Sounds on percussion.

Sounds on auscultation.

Lumbar sounds on percussion.

Effects of pressure on other organs.

UTERUS.

- Situation.
- Mobility.
- Length of cavity.
- Deviations.
- Condition of os and cervix.

VAGINA.

RECTUM AND ANUS.

GENITAL ORGANS.

- Catamenia now.
- Date of commencement.
- " cessation.
- Any sudden suppression.
- History of excess, or
 " deficiency.
- Leucorrhœa.

URINARY ORGANS.

Urine.
 ,,, Specific gravity.
 ,,, Quantity in 24 hours.
 ,,, Albumen, sugar, bile?
 ,,, Deposits.

Irritable bladder.

Dysuria.

Incontinence.

DIGESTIVE ORGANS.

Tongue.
Appetite.
Thirst.
Flatulence.
Pain.
Motions.

NERVOUS SYSTEM.

Sleep.
Pain.
Spirits.
Convulsions.
Neuralgia.
Paralysis.
Hysteria.
Anæsthesia.

RESPIRATORY ORGANS.

- Breathing.
- Cough.
- Expectoration.
- Physical signs
- Rests best on side.

CIRCULATION.

Pulse. Sounds of heart.

HISTORY.

Hereditary influence.
Parents.
Brothers and sisters.
Other blood relations.
Where born and formerly residing.
Climate or local peculiarities.
 Soil.
 Sewage.
 Water.
Mode of life.
Moral causes.
Previous diseases, or
Accidents.

HISTORY.—EARLY SYMPTOMS.

First signs of ill-health.
Pains or tenderness in
 Groin, or
 Pubic region.
Vaginal fulness.
Bearing down of uterus.
Pressure on bladder.
Increase in size.
Discovery of tumour.
Pain, numbness, or weakness of leg.
Constipation.
Fulness or pain in breasts.
Nausea.
Symptoms worse periodically?
Early treatment.

HISTORY—PROGRESSIVE SYMPTOMS.

Rate of enlargement.
 Movement felt?
 Changes in situation.
 Aggravation of early symptoms.
 Dyspnoea.
 Tympanites.
 Febrile attacks.
 Cyst inflammation.
 Peritonitis.
 Ascites.

Discharges through {
 Uterus.
 Vagina.
 Bowel.
 Abdominal wall.

Spontaneous rupture of cyst?
 Treatment.
 Date of any tappings and
 Quantity of fluid removed.

DIAGNOSIS.

PROGNOSIS.

Probable duration of life if left alone or to palliative treatment.

GENERAL TREATMENT.

MEDICAL OR SURGICAL TREATMENT.

PROGRESS.

RESULT OF TREATMENT.

OPERATION.

Date.

Names of assistants and visitors.

Chloroform administered by

Nurse's name.

Incision, situation.

Extent.

Adhesions.

Tapping of cyst, or

Removal of tumour.

Pedicle, size and length.

„ Relation to uterus.

„ How secured.

Hæmorrhage.

Opposite ovary.

CLOSURE OF WOUND.

OPERATIVE PECULIARITIES.

PREVIOUS DIAGNOSIS COMPARED WITH OPERATION.

DESCRIPTION OF TUMOUR.

Quantity of fluid removed.

Weight of cysts, or of

Solid matter removed.

AFTER-TREATMENT AND PROGRESS.



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